

SEMIANNUAL MONITORING REPORT

**CIBA-GEIGY FACILITY
180 MILL STREET
CRANSTON, RHODE ISLAND**

MONITORING RESULTS

FOR

JANUARY - JUNE 2003

**CIBA SPECIALTY CHEMICALS CORPORATION
TOMS RIVER, NEW JERSEY 08754**



SEMS DocID 652902

| TABLE OF CONTENTS | Page No. |
|---|-----------------|
| 1.0 SUMMARY | 1 |
| 2.0 OBJECTIVE | 3 |
| 3.0 INTRODUCTION | 3 |
| 4.0 MEDIA PROTECTION STANDARDS | 3 |
| 5.0 SEMIANNUAL MONITORING RESULTS | 4 |
| 5.1 Hydraulic Monitoring | 4 |
| 5.2 Monitoring for Chemicals Of Concern | 5 |
| 6.0 DISCUSSION | 6 |
| 7.0 CONCLUSION | 7 |

LIST OF TABLES

| | |
|--|------------|
| Table 1 Monitoring Results for Wells Exceeding the MPS | 1 |
| Table 2 Media Protection Standards | 4 |
| Table 3 Monitoring Results - Chemicals of Concern | 6 |
| Table 4 Upgradient Wells - Cumulative Results for Chemicals of Concern | Appendix B |
| Table 4 Bulkhead Wells - Cumulative Results for Chemicals of Concern | Appendix C |
| Table 5 In-River Wells - Cumulative Results for Chemicals of Concern | Appendix D |

LIST OF FIGURES

| | |
|--|------------|
| Figure 1 Pre-Pump & Treat Potentiometric Surface Map | Appendix A |
| Figure 2 Potentiometric Surface Map | Appendix A |

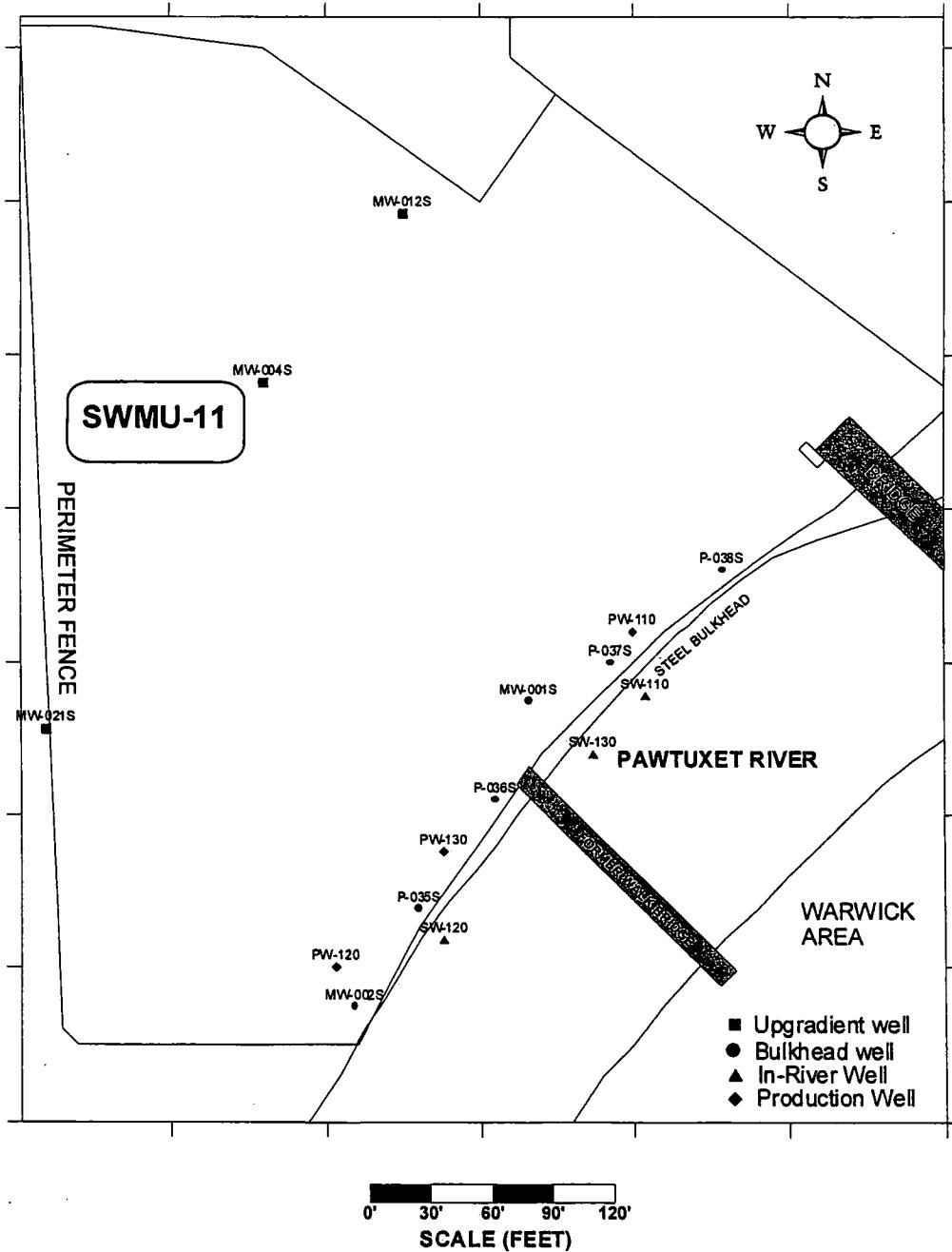
LIST OF APPENDICES

- Appendix A Tabulated Groundwater Elevation Data and Potentiometric contours
- Appendix B Time-Series Graphs and Data for Upgradient Wells
- Appendix C Time-Series Graphs and Data for Bulkhead Wells
- Appendix D Time-Series Graphs and Data for In-River Wells
- Appendix E Certificate of Analysis - R. I. Analytical

WELL LOCATION MAP

CIBA SPECIALTY CHEMICALS CORPORATION (FORMERLY CIBA-GEIGY CORPORATION) CRANSTON, RI FACILITY FORMER PRODUCTION AREA

Chemical Well Monitoring Network



1.0 SUMMARY

On June 16, 1989, Ciba-Geigy Corporation (now Ciba Specialty Chemicals Corporation (Ciba)) entered into an Administrative Order on Consent (AOC) with the USEPA. The AOC required Ciba to conduct a Corrective Measures Study (CMS) and propose Media Protection Standards (MPSs) for the former manufacturing facility at Cranston, RI (the Facility). MPSs for five chemicals of concern (COC) were developed (see Table 1) and are monitored at 12 wells two times a year.

The first 2003 semiannual monitoring episode was performed on April 2-3, at which time 11 monitor wells and 3 extraction wells were sampled and analyzed by Rhode Island Analytical for a suite of chemicals including the COC. A twelfth well, SW-130 was not sampled due to a blockage within the well. Semiannual water level readings were recorded on April 7, 2003.

A third extraction well, PW-130, began operating on December 20, 1999. The new well complements the two existing extraction wells to achieve hydraulic capture of the plume along the bulkhead in the former Production Area. The potentiometric surface map (Figure 2, Appendix A) for April 7, 2003, demonstrates capture along the bulkhead.

The sampling results for April 2003 shows 1,2-dichlorobenzene and chlorobenzene exceeding the MPSs in two wells (MW-002S & P-035S) along the bulkhead. These results compare favorably to last quarter's numbers when well MW-001S exceeded the MPS for chlorobenzene. The results of April 2003 are compared to last quarter's results of October 2002 in Table 1.

Table 1
Monitoring Results for Wells Exceeding the MPS
(units as ppb)

| Well | 1,2-Dichlorobenzene (MPS= 94) | | Chlorobenzene (MPS= 1700) | |
|---------------------------------|-------------------------------|------------|---------------------------|------------|
| | October 2002 | April 2003 | October 2002 | April 2003 |
| MW-001S | 10 U | 10 U | 1800 | 320 |
| MW-002S | 360 | 66 | 8800 | 2000 |
| P-035S | 1300 | 97 | 970 | 280 |
| 'U' – Non-detect and MDL stated | | | | |

Table 1 makes the point that all three wells improved in 2003. The two wells that exceeded the MPS in 2003 are located at the southern end of the bulkhead and have experienced increases in contamination of chlorinated aromatics since the last half of 1999 when Ciba placed into service new extraction well PW-130. Groundwater flux moving to PW-130 may be influencing these two monitor wells. The new extraction well PW-130 pumps on average 20 GPM versus the 3 GPM for next nearest extraction well, PW-120 (see well location map on p.iii). Extraction well

PW-110 remains diminutive in contamination and may be a potential candidate for a future shut down leaving the remaining two extraction wells to capture the contamination south of the former walk bridge.

The next monitoring episode is scheduled for October 2003.

2.0 OBJECTIVE

The objective of the monitoring program is to evaluate the Groundwater Extraction and Treatment System (GETS) on controlling releases to the Pawtuxet River while long-term corrective measures to areas of concern are being addressed, specifically SWMU-11.

3.0 INTRODUCTION

In August 1996, Ciba submitted to the USEPA a Pawtuxet River Corrective Measures Study (PRCMS) Report. In the PRCMS report (Section 3.5.1, page 3-12) Ciba proposed to measure groundwater elevations in the former Production area quarterly during the first two years following startup of the groundwater capture system and then semiannually until the groundwater capture and pretreatment system were shutdown.

Therefore, groundwater elevation data is collected from 23 wells to show if shallow contaminated groundwater in the former Production area is hydraulically controlled from discharging into the Pawtuxet River.

Inclusive of the PRCMS Ciba also proposed to monitor groundwater quality at the Facility. Groundwater is sampled semiannually from 12 selected overburden-monitor wells to evaluate changes in groundwater quality, specifically for the 5 chemicals of concern.

4.0 MEDIA PROTECTION STANDARDS

During the RCRA Facility investigation an MPS¹ was developed for each of five chemical contaminants detected in the former Production Area groundwater. These contaminants and their respective MPSs are summarized in Table 1 and discussed in detail in the PRCMS Report, Section 2.4.1.

¹ From the Public Health and Environmental Risk Evaluation (PHERE) that concluded the sole receptor impacted by contaminated groundwater were benthic invertebrates in the shallow sediments of the Pawtuxet River.

Table 2
Media Protection Standards
of Chemical Of Concern
CIBA-GEIGY, Cranston R.I. Facility
Former Production Area

| Compound | MPS Concentration (ppb) |
|---------------------|-------------------------|
| 1,2-dichlorobenzene | 94 |
| chlorobenzene | 1700 |
| ortho-chlorotoluene | 1500 |
| toluene | 1700* |
| xylenes | 76 |

* Rhode Island Groundwater Objective GB - Groundwater classified as GB has been designated by the Rhode Island Department of Environmental Management (RIDEM) as not suitable for public or private drinking water use.

5.0 SEMIANNUAL MONITORING RESULTS

This report summarizes the groundwater quality results for the COC sampling that was performed April 2-3, 2003. The COC data are compared to previous sampling rounds dating back to March 1996, when semiannual monitoring activities were initiated. Also in this report are results of the hydraulic monitoring performed on April 7, 2003. The current hydraulic results are compared to pre-pumping baseline conditions dated September 30, 1993 (see Appendix A).

5.1 Hydraulic Monitoring

Piezometric contours for the overburden aquifer were created using data collected from 23 groundwater monitor wells and 3 extraction wells using Golden Software, Inc., SURFER FOR WINDOWS, Version 5.01 software.

The tabulated groundwater elevation data and the associated potentiometric contours, Figures 1 and 2, are included in Appendix A.

The kriging contour algorithm was used as a best fit method of approximating the directional groundwater flow pattern. The baseline results in Figure 1 show groundwater flow from northwest to southeast to the Pawtuxet River. Figure 2 shows the effect of the 3 extraction wells on the groundwater flow. Well PW-110 north of the walk bridge shows groundwater capture at present pumping capacity 37 GPM; the second and third extraction wells, PW-120 (2 GPM) and PW-130 (14 GPM), are capturing the plume along the bulkhead south of the walk

bridge. Together the 3 wells are capturing the groundwater plume that would otherwise pass by the bulkhead to the Pawtuxet River.

The hydraulic capture along the bulkhead is discussed in detail in the report " Capture Zone Analysis, Former Production area, Cranston, Rhode Island" dated July 7, 2000.

5.2 Monitoring for Chemicals of Concern (COC)

Twelve wells were sampled as part of the semiannual sampling program. The wells are divided into three main groups; shown on the Location Map in Section iii of this report. The COC analytical results are tabulated and included in Table 3 at the end of this section.

Three wells, MW-004S, 012S, and 021S are designated upgradient to the bulkhead wells. Though, for this sampling event the presence of o-chlorotoluene (72 ppb) at well MW-021S and toluene (66 ppb) at MW-004S are noted, these wells remain acceptable for comparison purposes.

Results for the 6 bulkhead wells show the presence of varying levels of chlorobenzene except for P-038S, a well furthest from the contamination, and north of the former walk bridge. Also present is 1,2-dichlorobenzene at the southern bulkhead wells MW-002S, and P-035S. Both contaminants are present in concentrations that exceed the MPSs.

Well MW-002S within close proximity to pumping well PW-120; both wells show high concentration of contamination and are located at the southeastern section of the property. Increases of contamination at MW-002S were first observed in April 2000 along with wells MW-001S and P-035S. This increase followed the introduction of the new extraction well PW-130 in December 1999.

The "P" wells, 036S, 037S, and, 038S north of the former walk bridge have not changed much over the past 5 years. Chlorobenzene remains prominent for these wells except for P-038S, where non-detect results for all COC contaminants are now typical.

The in-river wells are located beyond the bulkhead in the Pawtuxet River. Two in-river wells were sampled. The third well, SW-130, was not sampled to a blockage in the well casing. Ciba will investigate whether to fix the well, replace the well or request to discontinue monitoring the well. It should be noted that well SW-130 has not shown any significant amounts of contamination since April 2000. Well SW-120 shows a presence of chlorobenzene at 45 ppb a result typical for this well when viewed over the past 6 years of monitoring. Well SW-110 that usually shows the presence of chlorobenzene at low levels, is now non-detect, a considerable improvement over the years when chlorobenzene would be in the 1-2 ppm range. Since 2001 the

in-river wells have remained almost free of contamination a reflection of the success of the GETS.

Table 3
Monitoring Results for April 2-3, 2003
Chemicals Of Concern
(as ppb)

| Well Designation | Well Number | MPS | 94 | 1700 | 1500 | 1700 | 76 | | | |
|------------------|-------------|------|----------------------|----------------|------------------|---------|---------|----|----|---|
| | | | 1,2-Dichloro-Benzene | Chloro-Benzene | O-Chloro-Toluene | Toluene | Xylenes | | | |
| Upgradient | MW-004S | | 1 U | 3 | 5 | 66 | 4 | | | |
| | MW-012S | | 1 U | 1 U | 1 U | 1 U | 2 | | | |
| | MW-021S | | 1 U | 1 U | 72 | 1 U | 1 | | | |
| Bulkhead | MW-001S | 10 | U | 320 | 10 | U | 10 | U | | |
| | MW-002S | 66 | | 2090 | 50 | U | 200 | 50 | U | |
| | P-035S | 27 | | 280 | 11 | | 10 | U | 10 | U |
| | P-036S | 10 | U | 210 | 10 | U | 10 | U | 10 | U |
| | P-037S | 10 | U | 270 | 10 | U | 10 | U | 10 | U |
| | P-038S | 1 | U | 1 | U | 1 | U | 1 | U | 1 |
| In-River | SW-110 | | 1 U | 1 U | 1 U | 1 U | 1 U | | | |
| | SW-120 | | 1 U | 45 | 1 U | 1 U | 1 U | | | |
| | SW-130 | | NA | NA | NA | NA | NA | | | |
| Extraction | PW-110 | | 1 U | 26 | 11 | 1 U | 1 U | | | |
| | PW-120 | 5700 | | 3800 | 180 | 100 | 50 | U | | |
| | PW-130 | 61 | | 320 | 170 | 26 | 10 | U | | |

U = Non-detect with detection limit given

J = Estimated value

NA = Not Available, sample not taken. Well blockage

MPS Exceedance

6.0 DISCUSSION

The April 2003, Certificate of Analysis by R.I. Analytical is included in Appendix E. The cumulative results from 1996 to the present for 12 wells and 5 COCs are included as Tables 3, 4, and 5 in Appendices B, C, and D respectively. The cumulative results of each COC are plotted as Time-Series graphs for a better perception of trends over the sampling history since the inception of the GETS in September 1995. These graphs are also found in the respective Appendices B, C, and D.

Trends in specific COCs are apparent at wells MW-004S and MW-001S. In well MW-004S o-chlorotoluene has shown a decreasing trend from 1,700 ppb to 5 ppb from 1996 to 2003 respectively. In well MW-001S the trend is observed in chlorobenzene, decreasing from 2,000 ppb to 320 ppb from 1996 to 2003 respectively.

However, as mentioned in Section 5.2, bulkhead wells MW-002S and P-035S exceed the MPS values for either 1,2-dichlorobenzene or chlorobenzene. Though well P-035S is exceeding the MPS in 1,2-dichlorobenzene, a significant reduction is observed from the previous sampling going from 1,300 ppb down to 97 ppb. Well MW-002S has also seen a reduced concentration in chlorobenzene from 8,800 ppb down to 2,000 ppb since its last sampling in October 2002.

The 2 of 3 in-river wells that were sampled are generally low to non-detect for contamination. These wells located beyond the bulkhead in the Pawtuxet River have consistently shown improvement since Ciba began the operation of the GETS.

7.0 CONCLUSION

Groundwater quality in the former Production Area continues to improve over time. Groundwater quality as measured by an exceedance of the MPSs of the selected COC remains under pressure due to the presence of 1,2-dichlorobenzene and chlorobenzene. This latest sampling episode identified two wells along the bulkhead having contamination that exceeds the proposed media protection standards for 1,2-dichlorobenzene and chlorobenzene, though present results are an improvement over the results for the last sampling event. Both wells are in the extreme southeast part of the property. The two wells may be experiencing increased contamination due to the operation of a new extraction well that places the wells between the pumping well and the contamination. The reduced contamination observed in the wells at the northern end of the bulkhead and the lack of contamination found in extraction PW-110, may represent an opportunity for a future trial shutdown of this pumping well.

The next well sampling is scheduled for October 2003.

APPENDIX A
TABULATED
GROUNDWATER ELEVATION DATA
AND
POTENTIOMETRIC CONTOURS

**CIBA SPECIALTY CHEMICALS CORPORATION
(FORMERLY CIBA-GEIGY CORPORATION)**
180 MILL STREET
CRANSTON, RI

GROUNDWATER MONITORING

April 7, 2003

September 30, 1993

| MONITORING WELL | TOC MSL FEET | TOC TO WATER FEET | GW ELEVATION MSL FEET | GW ELEVATION MSL FEET |
|--------------------|--------------------|-------------------------|-----------------------------|-----------------------------|
| PW-110 | 15.72 | 17.47 | -2.11 | NA |
| PW-120 | 14.25 | 13.70 | -0.13 | NA |
| PW-130 | 16.59 | 20.10 | -4.28 | NA |
| MW-001S | 15.04 | 8.38 | 8.59 | 9.39 |
| MW-002S | 14.46 | 8.68 | 9.65 | 9.21 |
| MW-003S | 16.61 | 8.35 | 8.94 | 7.96 |
| MW-004S | 21.29 | 12.04 | 6.14 | 10.72 |
| MW-010S | 22.62 | 12.30 | 5.46 | 11.34 |
| MW-012S | 22.54 | 12.50 | 5.21 | 10.54 |
| MW-013S | 18.44 | 10.10 | 7.36 | 9.83 |
| MW-020S | 21.94 | 11.44 | 6.38 | 11.53 |
| MW-022S | 16.87 | 8.25 | 9.59 | 9.63 |
| MW-023S | 20.71 | dry | 5.04 | 9.41 |
| MW-024S | 21.04 | dry | 6.42 | 10.89 |
| MW-034S | 18.85 | 9.20 | 7.60 | 10.4 |
| P-001S | 16.41 | 10.00 | 6.86 | 9.17 |
| P-002S | 13.85 | 7.90 | 9.72 | 8.38 |
| P-003S | 15.45 | 8.27 | 8.46 | 7.09 |
| P-004S | 19.92 | 10.10 | 8.15 | 11.07 |
| P-005S | 21.18 | 11.90 | 5.74 | 10.68 |
| P-006S | 23.62 | 13.85 | 3.90 | 10.39 |
| P-034S | 17.15 | 8.25 | 9.44 | 10.12 |
| P-035S | 15.32 | 9.70 | 7.82 | 8.51 |
| P-036S | 15.91 | 10.00 | 7.57 | 8.62 |
| P-037S | 15.69 | 10.05 | 7.01 | 8.96 |
| P-038S | 16.19 | 8.52 | 8.60 | 8.74 |

NA - Not Available

Figure 1

**CIBA SPECIALTY CHEMICALS CORPORATION
CRANSTON, RI FACILITY
FORMER PRODUCTION AREA**

**Pre-Pump & Treat Potentiometric Surface Map
September 30, 1993**

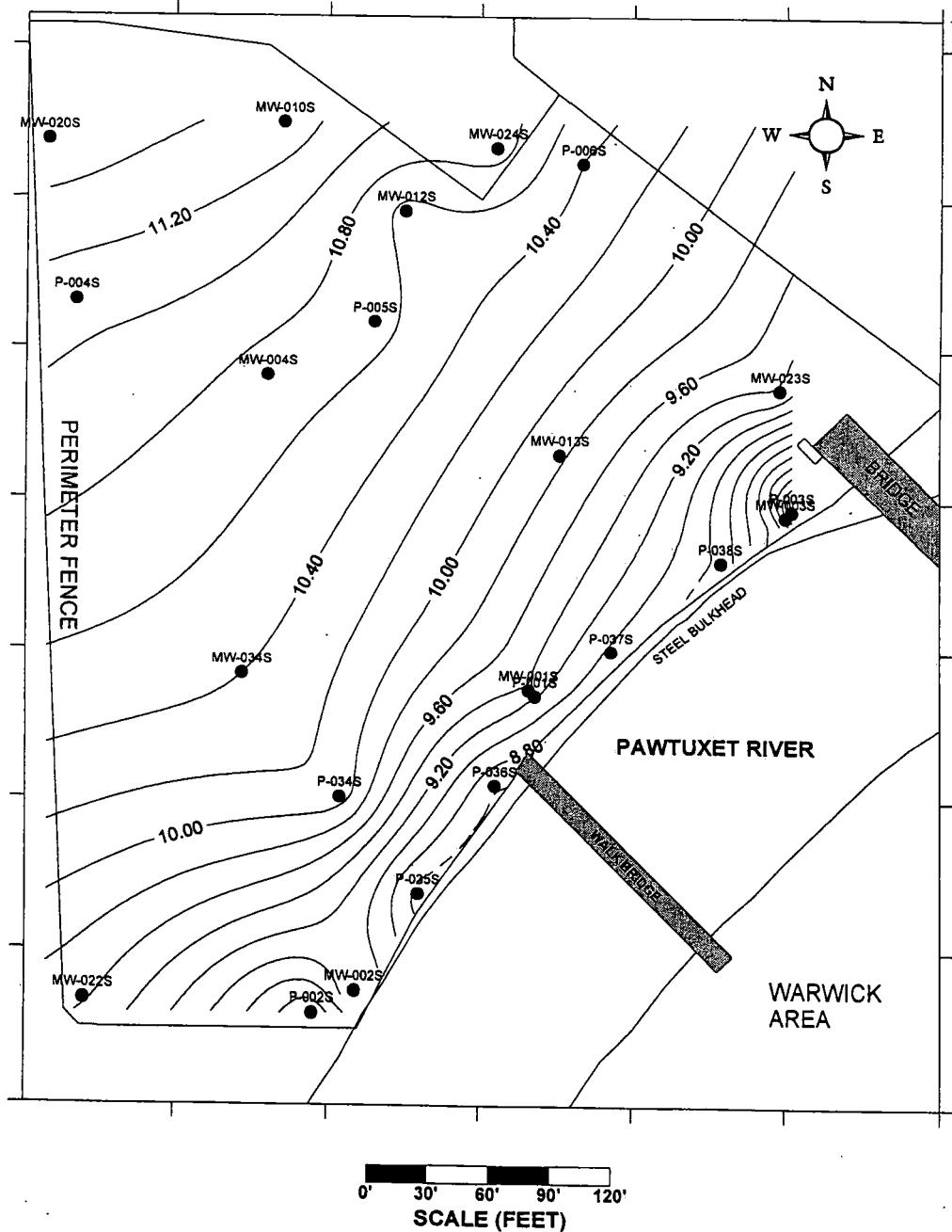
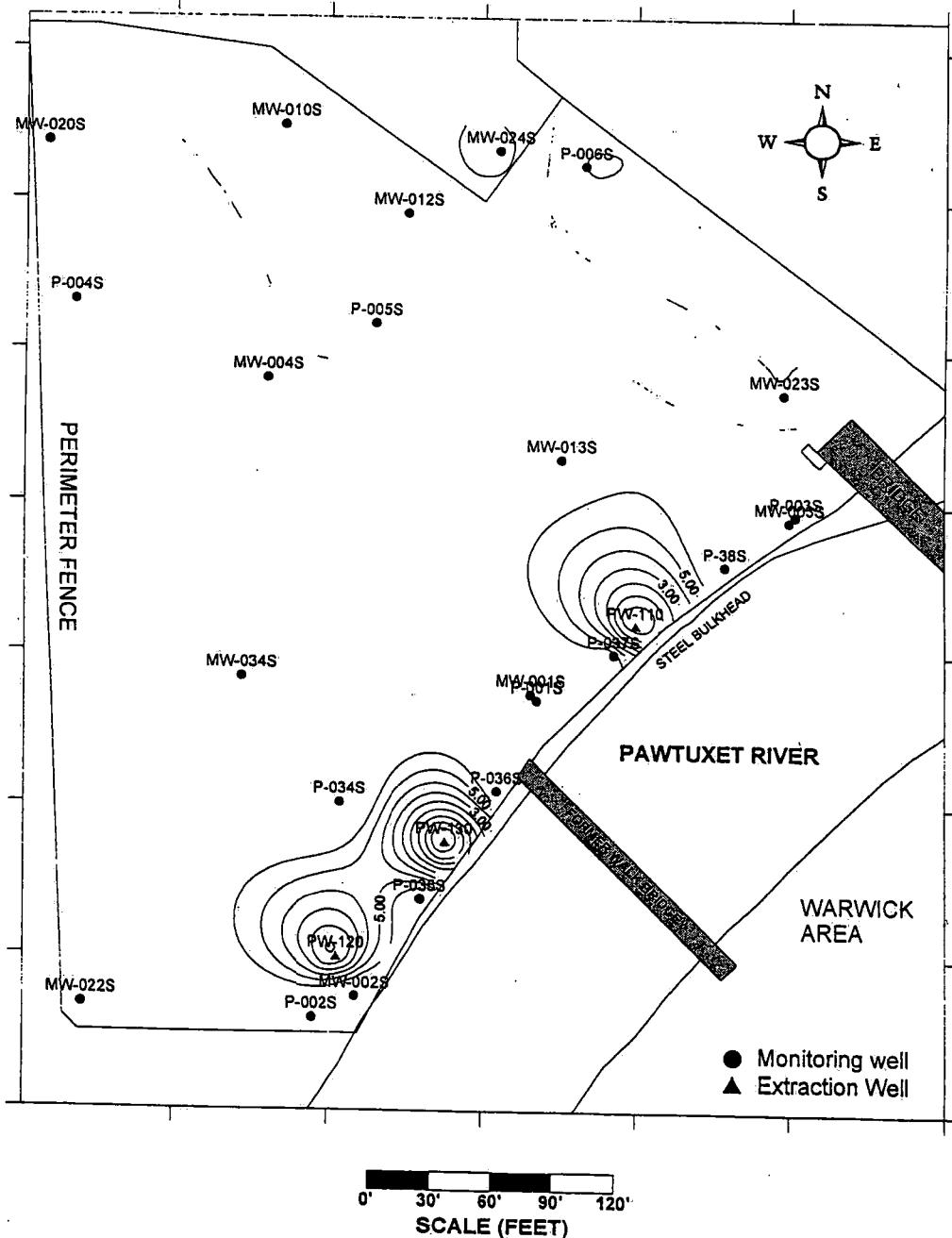


Figure 2

CIBA SPECIALTY CHEMICALS CORPORATION
CRANSTON, RI FACILITY
FORMER PRODUCTION AREA

Potentiometric Surface Map
April 7, 2003



APPENDIX B

TIME-SERIES

FOR

UPGRADIENT WELLS

Table 3
UPGRADIENT WELLS
Cumulative Results for Chemicals Of Concern
(Units in ppb)

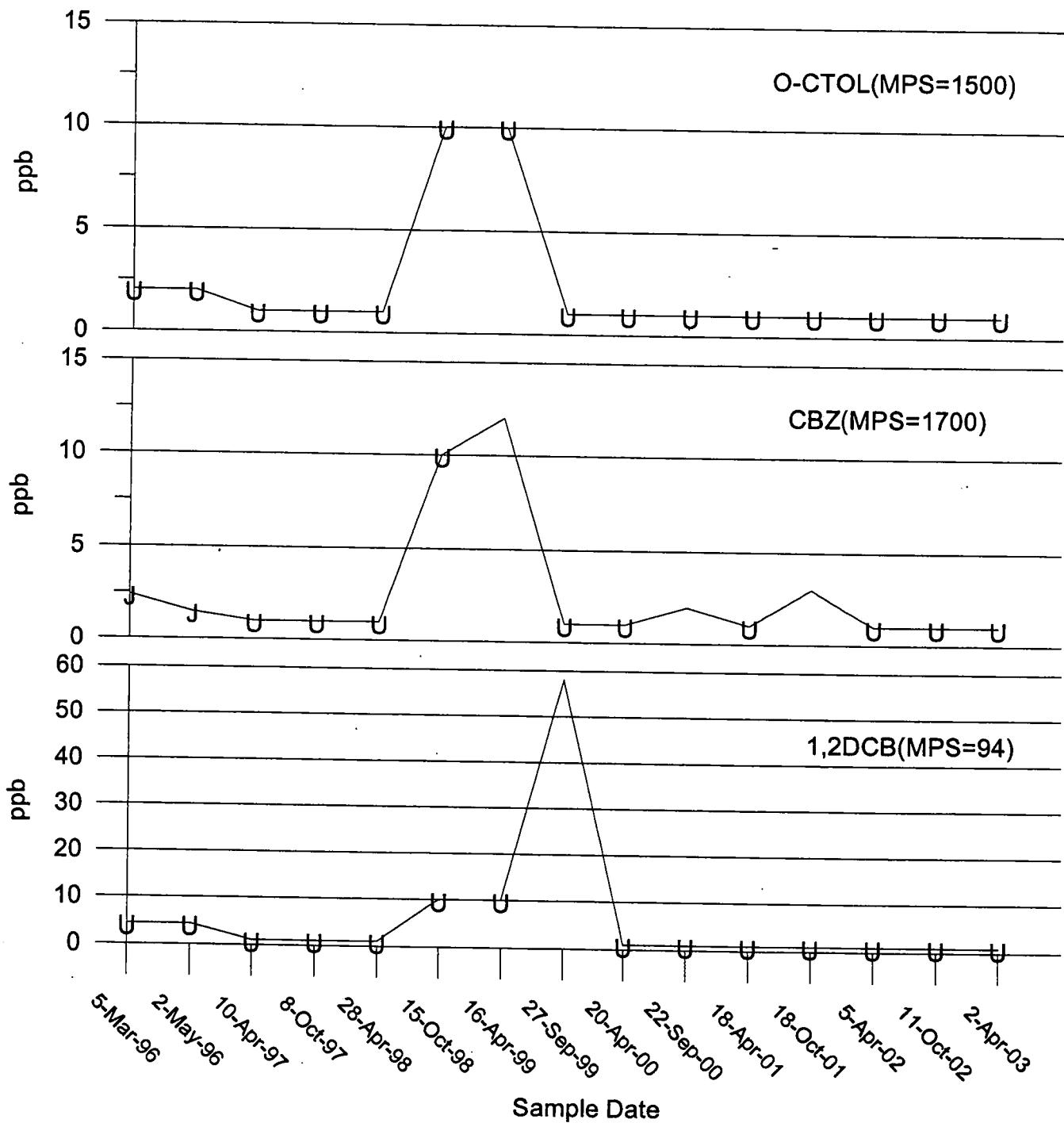
| Well No. | Date Sampled | 1,2-Dichloro-benzene | Chloro-benzene | o-Chloro-toluene | Toluene | Xylenes |
|----------|--------------|----------------------|----------------|------------------|---------|---------|
| MPS | | 94 | 1700 | 1500 | 1700 | 76 |
| MW-004S | 6-Mar-96 | 89 | 210 | 1700 | 2100 | 300 |
| MW-004S | 1-May-96 | 88 | 130 | 1200 | 1500 | 160 |
| MW-004S | 9-Apr-97 | 43 | 44 | 160 | 88 | 100 |
| MW-004S | 8-Oct-97 | 72 | 41 | 660 | 370 | 480 |
| MW-004S | 28-Apr-98 | 40 | 220 | 1200 | 2700 | 130 |
| MW-004S | 15-Oct-98 | 100 U | 580 | 300 | 100 U | 100 U |
| MW-004S | 16-Apr-99 | 50 U | 50 U | 50 | 50 U | 730 |
| MW-004S | 27-Sep-99 | 31 | 93 | 400 | 20 U | 79 |
| MW-004S | 20-Apr-00 | 74 | 170 | 20 U | 84 | 20 U |
| MW-004S | 22-Sep-00 | 30 U | 240 | 30 U | 30 U | 30 U |
| MW-004S | 19-Apr-01 | 1 U | 1 | 36 | 1 U | 2 |
| MW-004S | 18-Oct-01 | 2 | 5 | 20 | 1 U | 1 |
| MW-004S | 5-Apr-02 | 1 U | 1 | 1 U | 1 U | 1 U |
| MW-004S | 11-Oct-02 | 1 U | 1 U | 5 | 1 U | 1 U |
| MW-004S | 2-Apr-03 | 1 U | 3 | 5 | 66 | 4 |
| MW-012S | 5-Mar-96 | 4.3 U | 2.4 J | 2 U | 2.8 U | 75 |
| MW-012S | 2-May-96 | 4.3 U | 1.5 J | 2 U | 2.8 U | 42 |
| MW-012S | 10-Apr-97 | 1 U | 1 U | 1 U | 1 U | 1 U |
| MW-012S | 8-Oct-97 | 1 U | 1 U | 1 U | 1 U | 12 |
| MW-012S | 28-Apr-98 | 1 U | 1 U | 1 U | 1 U | 65 |
| MW-012S | 15-Oct-98 | 10 U | 10 U | 10 U | 10 U | 87 |
| MW-012S | 16-Apr-99 | 10 U | 12 | 10 U | 10 U | 24 |
| MW-012S | 27-Sep-99 | 58 | 1 U | 1 U | 1 U | 6 |
| MW-012S | 20-Apr-00 | 1 U | 1 U | 1 U | 1 U | 1 |
| MW-012S | 22-Sep-00 | 1 U | 2 | 1 U | 1 U | 1 |
| MW-012S | 18-Apr-01 | 1 U | 1 U | 1 U | 1 U | 25 |
| MW-012S | 18-Oct-01 | 1 U | 3 | 1 U | 1 U | 1 U |
| MW-012S | 5-Apr-02 | 1 U | 1 U | 1 U | 1 U | 1 U |
| MW-012S | 11-Oct-02 | 1 U | 1 U | 1 U | 1 U | 1 U |
| MW-012S | 2-Apr-03 | 1 U | 1 U | 1 U | 1 U | 2 |
| MW-021S | 6-Mar-96 | 43 U | 30 U | 480 | 12 J | 34 U |
| MW-021S | 1-May-96 | 22 U | 5 J | 820 | 15 | 17 U |
| MW-021S | 10-Apr-97 | 1 U | 1 U | 120 | 1 | 6 |
| MW-021S | 27-Oct-97 | 30 | 49 | 24000 | 20000 | 1600 |
| MW-021S | 28-Apr-98 | 1 U | 1 U | 54 | 1 U | 1 U |
| MW-021S | 15-Oct-98 | 100 U | 100 U | 7900 | 2500 | 580 |
| MW-021S | 15-Apr-99 | 50 U | 50 U | 9000 | 50 U | 520 |
| MW-021S | 27-Sep-99 | 40 U | 40 U | 8100 | 40 U | 110 |
| MW-021S | 20-Apr-00 | 40 U | 40 U | 11000 | 40 U | 40 U |
| MW-021S | 22-Sep-00 | 500 U | 500 U | 16000 | 500 U | 500 U |
| MW-021S | 19-Apr-01 | 10 U | 10 U | 440 | 10 U | 10 U |
| MW-021S | 18-Oct-01 | 50 U | 50 U | 12000 | 270 | 210 |
| MW-021S | 5-Apr-02 | 10 U | 10 U | 420 | 10 U | 10 U |
| MW-021S | 11-Oct-02 | 2 | 2 | 940 | 6 | 38 |
| MW-021S | 2-Apr-03 | 1 U | 1 U | 72 | 1 U | 1 |

MPS = Media Protection Standard
U = Nondetect with detection limit given
J = Estimated value

Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-012S
Upgradient Well

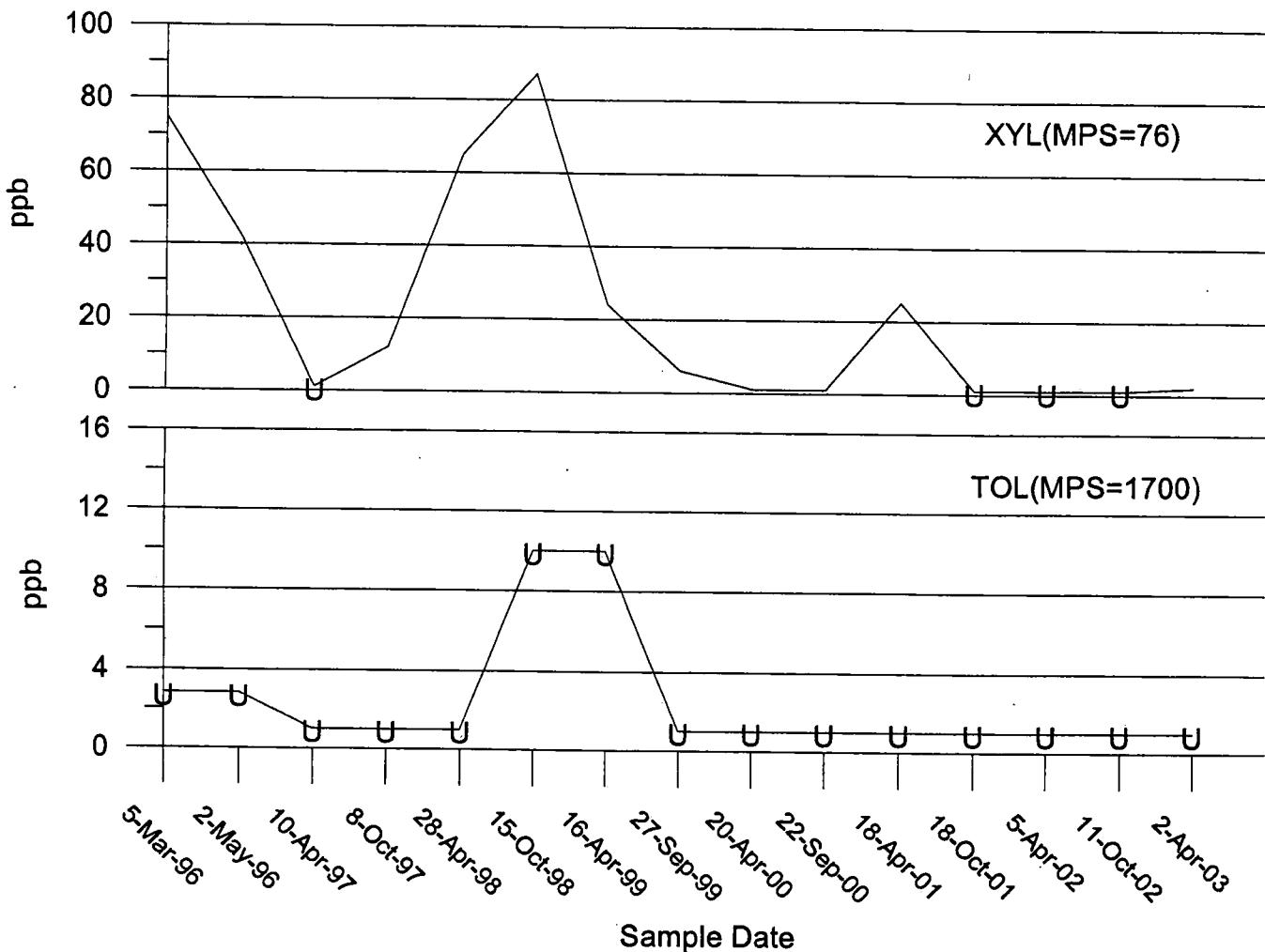
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-012S
Upgradient Well

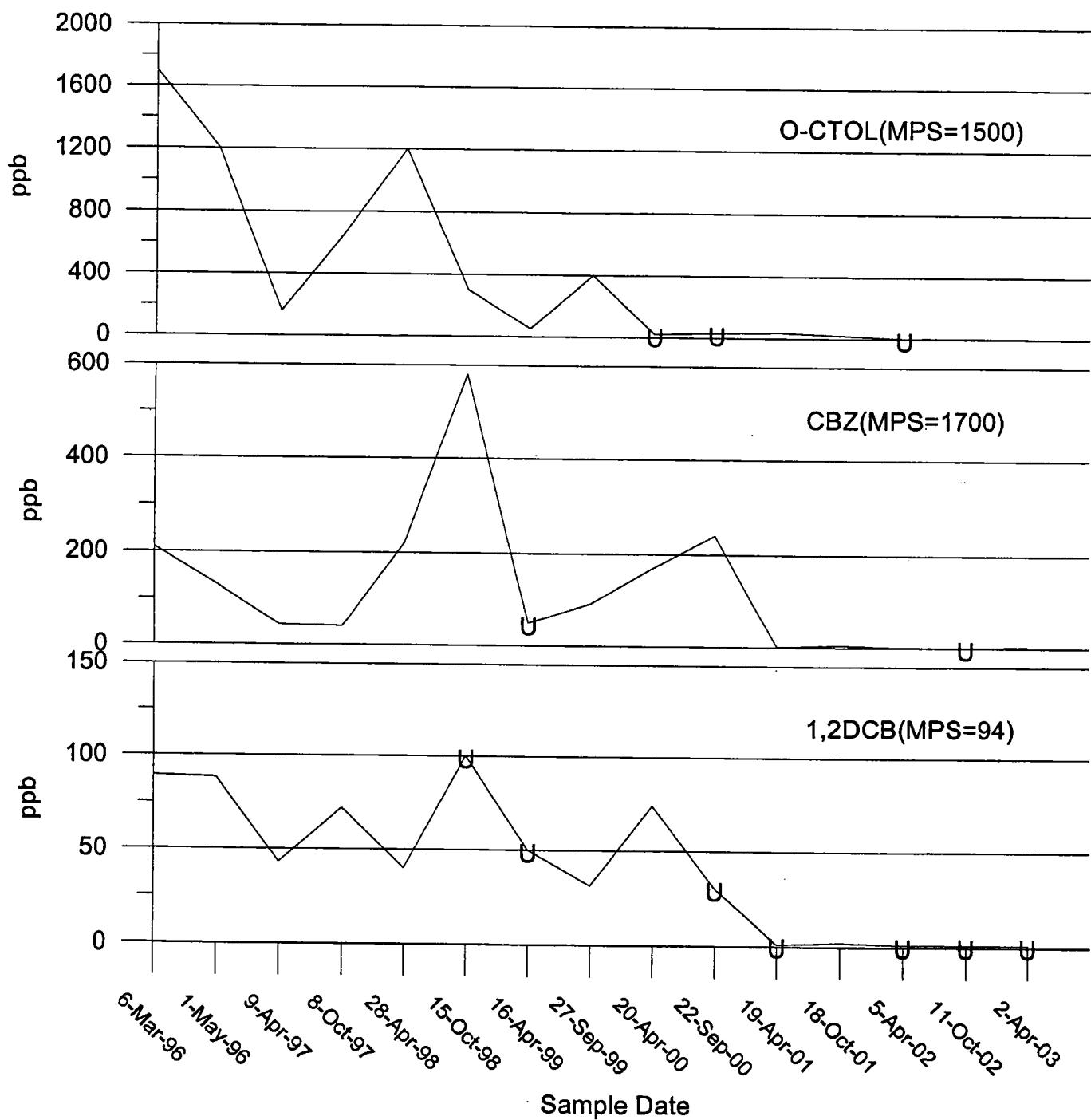
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-004S
Upgradient Well

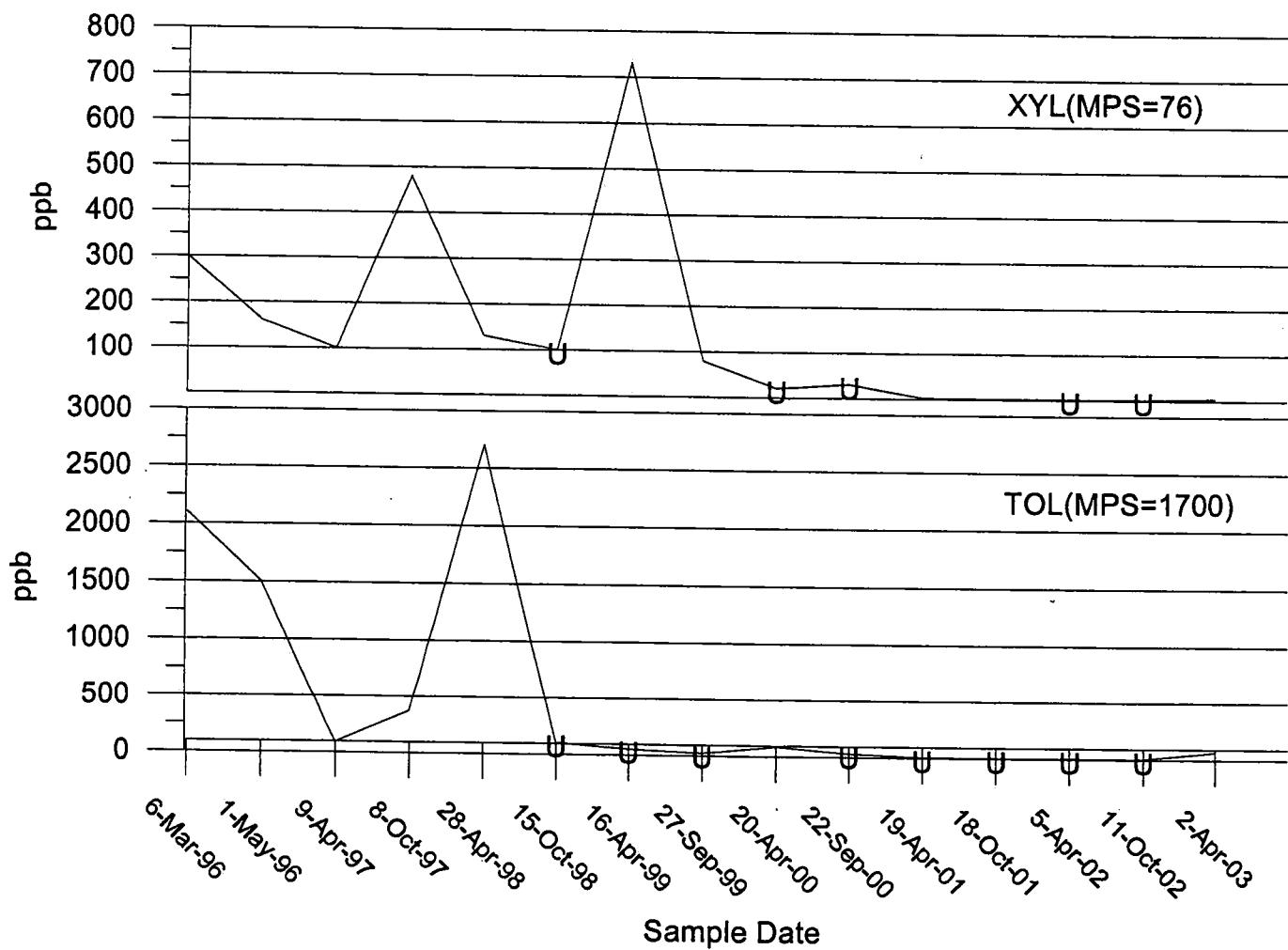
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-004S
Upgradient Well

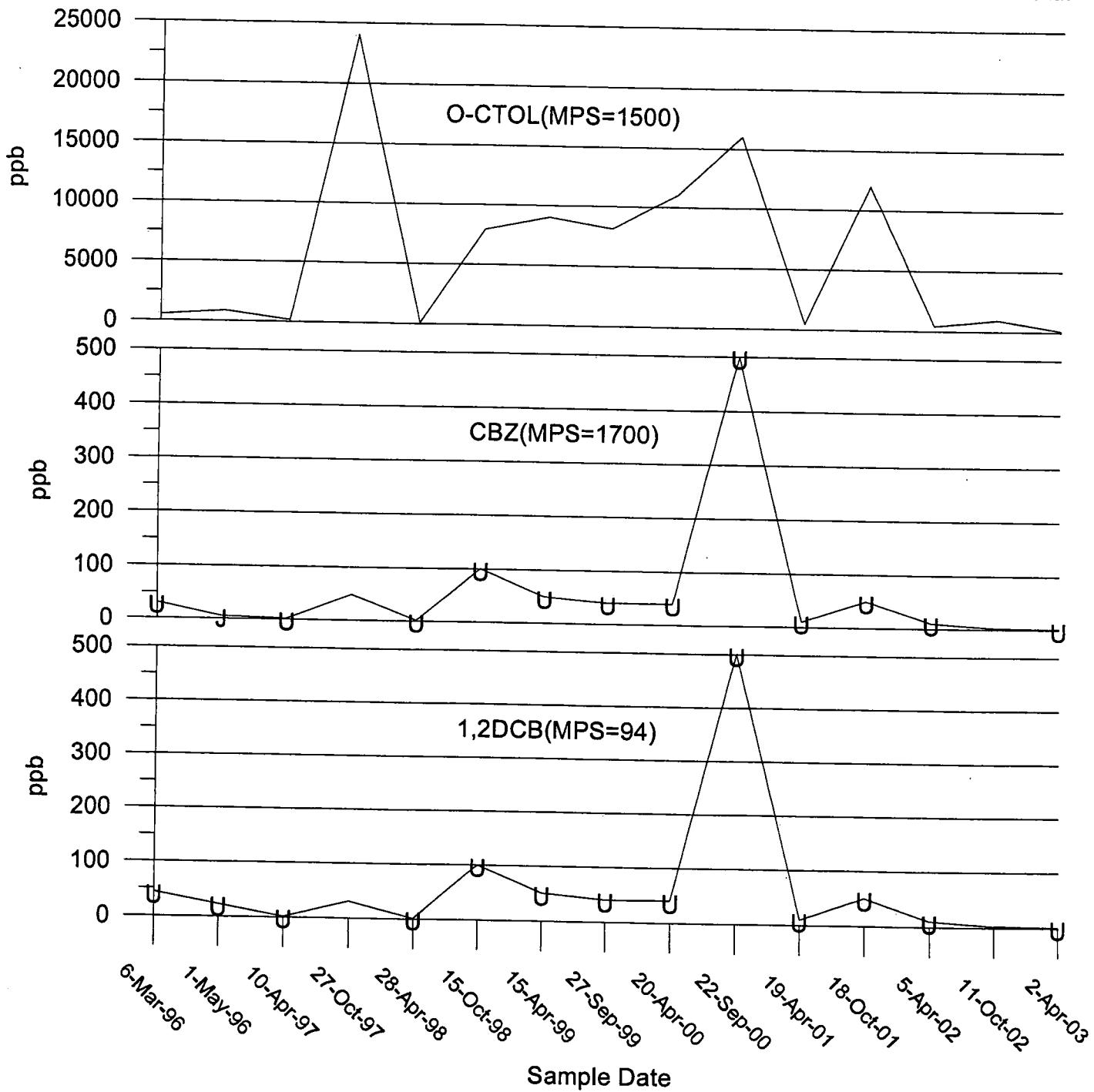
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-021S
Upgradient Well

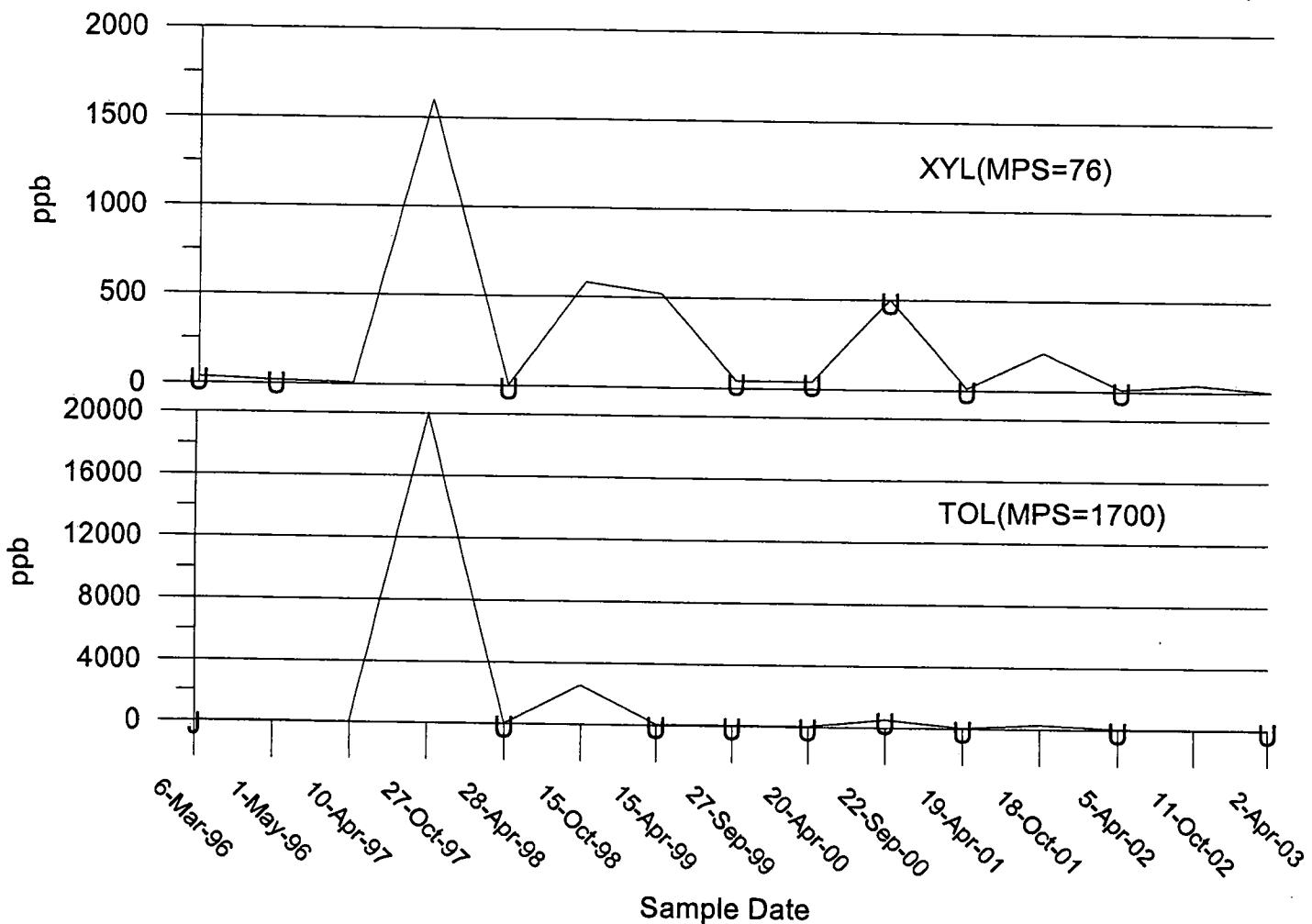
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-021S
Upgradient Well

"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



APPENDIX C
TIME-SERIES GRAPHS
FOR
BULKHEAD WELLS

Table 4
BULKHEAD WELLS
Cumulative Results for Chemicals Of Concern
(Units in ppb)

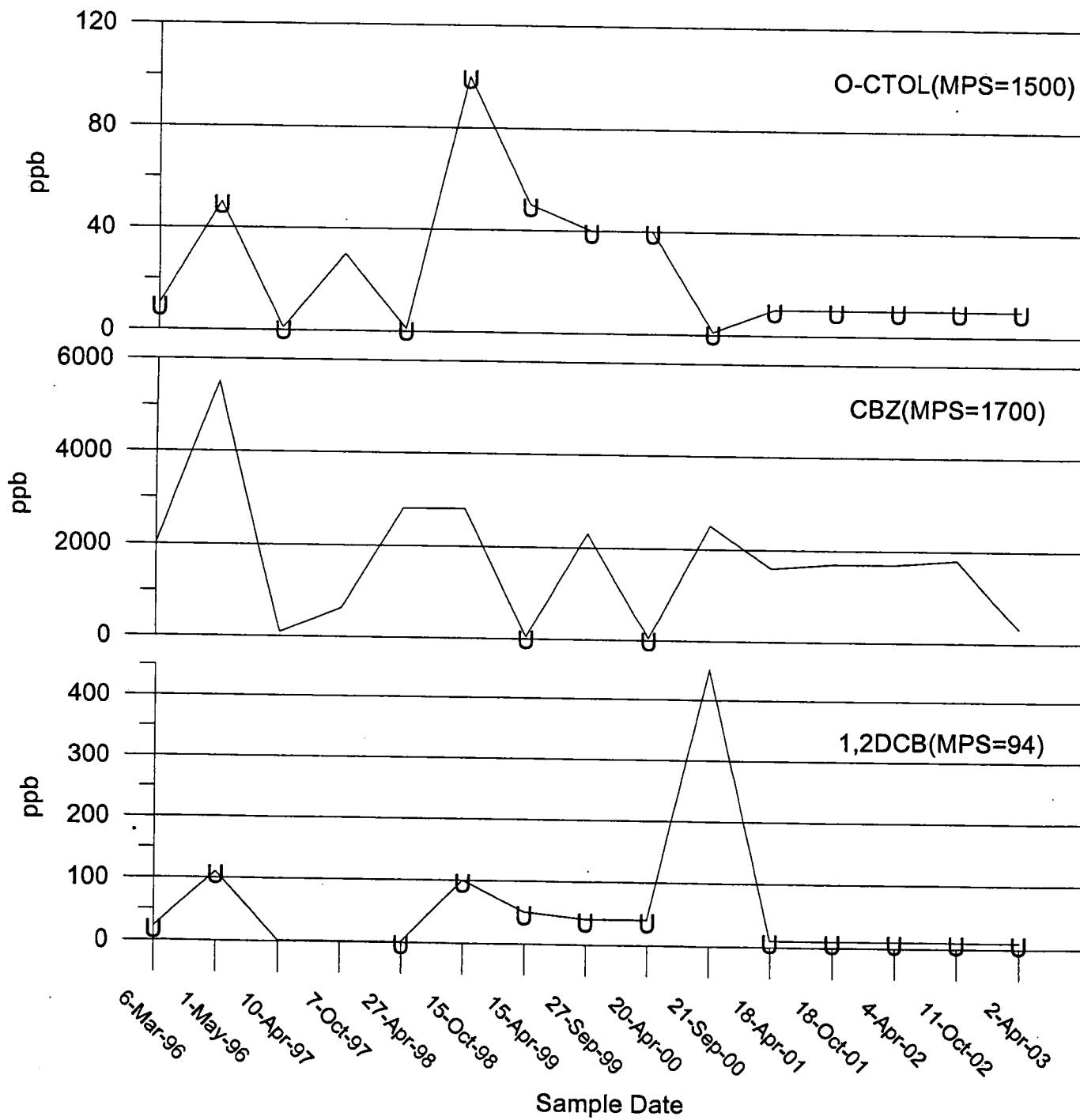
| Well No. | Date Sampled | 1,2-Dichloro- | Chloro- | o-Chloro- | Toluene | Xylenes |
|----------|--------------|---------------|---------|-----------|---------|---------|
| | | benzene | benzene | toluene | 1700 | 76 |
| MW-001S | 6-Mar-96 | 22 U | 2000 | 10 U | 16 | 18 |
| MW-001S | 1-May-96 | 110 U | 5500 | 50 U | 30 J | 85 U |
| MW-001S | 10-Apr-97 | 1 | 93 | 1 U | 9 | 7 |
| MW-001S | 7-Oct-97 | 1 | 640 | 30 | 23 | 2 |
| MW-001S | 27-Apr-98 | 1 U | 2800 | 1 U | 1 | 2 |
| MW-001S | 15-Oct-98 | 100 U | 2800 | 100 U | 100 U | 100 U |
| MW-001S | 15-Apr-99 | 50 U | 50 U | 50 U | 50 U | 50 U |
| MW-001S | 27-Sep-99 | 40 U | 2300 | 40 U | 40 U | 40 U |
| MW-001S | 20-Apr-00 | 40 U | 40 U | 40 U | 40 U | 40 U |
| MW-001S | 21-Sep-00 | 450 | 2500 | 1 U | 1 U | 1 U |
| MW-001S | 18-Apr-01 | 10 U | 1600 | 10 U | 10 U | 10 U |
| MW-001S | 18-Oct-01 | 10 U | 1700 | 10 U | 10 U | 10 U |
| MW-001S | 4-Apr-02 | 10 U | 1700 | 10 U | 10 U | 10 U |
| MW-001S | 11-Oct-02 | 10 U | 1800 | 10 U | 10 U | 10 U |
| MW-001S | 2-Apr-03 | 10 U | 320 | 10 U | 10 U | 10 U |
| MW-002S | 5-Mar-96 | 340 | 3200 | 50 U | 200 | 85 U |
| MW-002S | 30-Apr-96 | 44 J | 2500 | 50 U | 52 J | 85 U |
| MW-002S | 8-Apr-97 | 20 | 84 | 1 U | 46 | 18 |
| MW-002S | 7-Oct-97 | 90 | 440 | 100 | 97 | 31 |
| MW-002S | 27-Apr-98 | 22 | 500 | 1 U | 88 | 28 |
| MW-002S | 15-Oct-98 | 28 | 5200 | 1 U | 92 | 34 |
| MW-002S | 15-Apr-99 | 140 | 2280 | 10 U | 420 | 33 |
| MW-002S | 27-Sep-99 | 43 | 2800 | 40 U | 40 U | 40 U |
| MW-002S | 20-Apr-00 | 1340 | 12000 | 150 | 830 | 120 |
| MW-002S | 21-Sep-00 | 930 | 9400 | 500 U | 500 U | 500 U |
| MW-002S | 18-Apr-01 | 50 U | 1400 | 50 U | 95 | 50 U |
| MW-002S | 18-Oct-01 | 1800 | 12000 | 170 | 120 | 33 |
| MW-002S | 5-Apr-02 | 360 | 4700 | 100 U | 230 | 50 U |
| MW-002S | 11-Oct-02 | 360 | 8800 | 50 U | 140 | 50 U |
| MW-002S | 3-Apr-03 | 66 | 2000 | 50 U | 200 | 50 U |
| P-035S | 8-Apr-97 | 22 | 74 | 1 U | 4 | 12 |
| P-035S | 7-Oct-97 | 240 | 710 | 2 | 10 | 12 |
| P-035S | 27-Apr-98 | 42 | 380 | 1 U | 2 | 10 |
| P-035S | 15-Oct-98 | 140 | 2100 | 10 U | 130 | 80 |
| P-035S | 15-Apr-99 | 20 | 480 | 10 U | 10 U | 10 U |
| P-035S | 27-Sep-99 | 40 U | 40 U | 40 U | 40 U | 40 U |
| P-035S | 20-Apr-00 | 4580 | 77000 | 300 | 180 | 56 |
| P-035S | 21-Sep-00 | 6800 | 11000 | 500 U | 500 U | 500 U |
| P-035S | 18-Apr-01 | 2000 | 2100 | 87 | 50 U | 50 U |
| P-035S | 18-Oct-01 | 9000 | 11000 | 310 | 81 | 34 |
| P-035S | 4-Apr-02 | 9600 | 6800 | 380 | 100 U | 50 U |
| P-035S | 11-Oct-02 | 1300 | 970 | 79 | 10 U | 10 U |
| P-035S | 3-Apr-03 | 97 | 280 | 11 | 10 U | 10 U |
| P-036S | 6-Mar-96 | 22 U | 440 | 10 U | 14 U | 17 U |
| P-036S | 1-May-96 | 22 U | 460 | 30 | 14 U | 17 U |
| P-036S | 8-Apr-97 | 1 U | 72 | 1 U | 1 U | 2 |
| P-036S | 7-Oct-97 | 1 U | 35 | 9 | 2 | 1 U |
| P-036S | 27-Apr-98 | 1 U | 280 | 1 U | 1 U | 1 U |
| P-036S | 15-Oct-98 | 1 U | 230 | 1 U | 1 U | 1 |
| P-036S | 15-Apr-99 | 10 U | 200 | 10 U | 10 U | 10 U |
| P-036S | 27-Sep-99 | 10 U | 450 | 10 U | 10 U | 10 U |
| P-036S | 20-Apr-00 | 1 U | 290 | 1 U | 1 U | 1 U |
| P-036S | 21-Sep-00 | 30 U | 300 | 30 U | 30 U | 30 U |
| P-036S | 18-Apr-01 | 10 U | 280 | 10 U | 10 U | 10 U |
| P-036S | 18-Oct-01 | 1 U | 170 | 1 U | 1 U | 1 U |
| P-036S | 4-Apr-02 | 1 U | 230 | 1 U | 1 | 1 U |
| P-036S | 11-Oct-02 | 1 | 410 | 8 | 1 U | 1 U |
| P-036S | 3-Apr-03 | 10 U | 210 | 10 U | 10 U | 10 U |
| P-037S | 9-Apr-97 | 2 U | 54 | 18 | 1 U | 1 |
| P-037S | 8-Oct-97 | 2 | 50 | 13 | 1 U | 1 U |
| P-037S | 28-Apr-98 | 2 | 420 | 8 | 1 U | 1 U |
| P-037S | 15-Oct-98 | 30 U | 540 | 30 U | 30 U | 30 U |
| P-037S | 15-Apr-99 | 10 U | 210 | 10 U | 10 U | 10 U |
| P-037S | 27-Sep-99 | 10 U | 660 | 10 U | 10 U | 10 U |
| P-037S | 20-Apr-00 | 1 U | 460 | 5 | 1 U | 1 U |
| P-037S | 21-Sep-00 | 30 U | 370 | 30 U | 30 U | 30 U |
| P-037S | 18-Apr-01 | 10 U | 330 | 10 U | 10 U | 10 U |
| P-037S | 18-Oct-01 | 2 | 240 | 1 U | 1 U | 1 U |
| P-037S | 4-Apr-02 | 10 U | 360 | 10 U | 10 U | 10 U |
| P-037S | 11-Oct-02 | 10 U | 420 | 10 U | 10 U | 10 U |
| P-037S | 2-Apr-03 | 10 U | 270 | 10 U | 10 U | 10 U |
| P-038S | 6-Mar-96 | 4.3 U | 2.4 J | 2 U | 1.3 J | 3.4 U |
| P-038S | 1-May-96 | 4.3 U | 1.2 J | 2 U | 2.8 U | 3.4 U |
| P-038S | 9-Apr-97 | 1 U | 1 U | 1 U | 1 U | 1 U |
| P-038S | 8-Oct-97 | 1 U | 1 U | 1 U | 1 U | 1 U |
| P-038S | 28-Apr-98 | 1 U | 1 U | 1 U | 1 U | 1 U |
| P-038S | 15-Oct-98 | 1 U | 2 | 1 U | 1 U | 1 U |
| P-038S | 15-Apr-99 | 1 U | 1 U | 1 U | 1 U | 1 U |
| P-038S | 27-Sep-99 | 1 U | 1 | 1 U | 1 U | 1 U |
| P-038S | 20-Apr-00 | 1 U | 1 U | 1 U | 1 U | 1 U |
| P-038S | 21-Sep-00 | 1 U | 1 | 1 U | 1 U | 1 U |
| P-038S | 18-Apr-01 | 1 U | 1 U | 1 U | 1 U | 1 U |
| P-038S | 18-Oct-01 | 1 U | 6 | 1 U | 1 U | 1 U |
| P-038S | 4-Apr-02 | 1 U | 2 | 1 U | 1 U | 1 U |
| P-038S | 11-Oct-02 | 1 U | 1 U | 1 U | 1 U | 1 U |
| P-038S | 2-Apr-03 | 1 U | 1 U | 1 U | 1 U | 1 U |

MPS = Media Protection Standard
U = Nondetect with detection limit given
J = Estimated value

Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-001S
Along Bulkhead

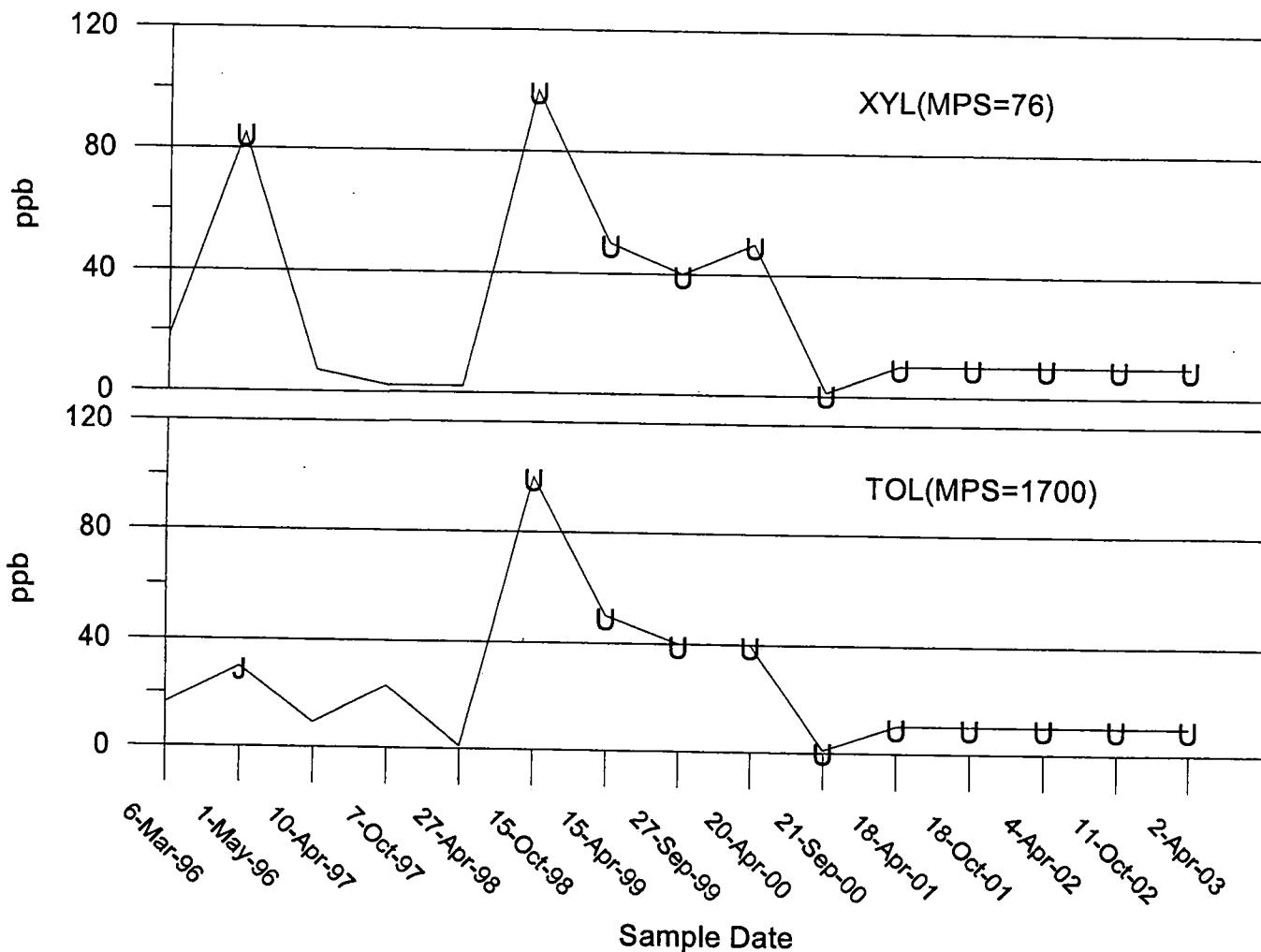
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-001S
Along Bulkhead

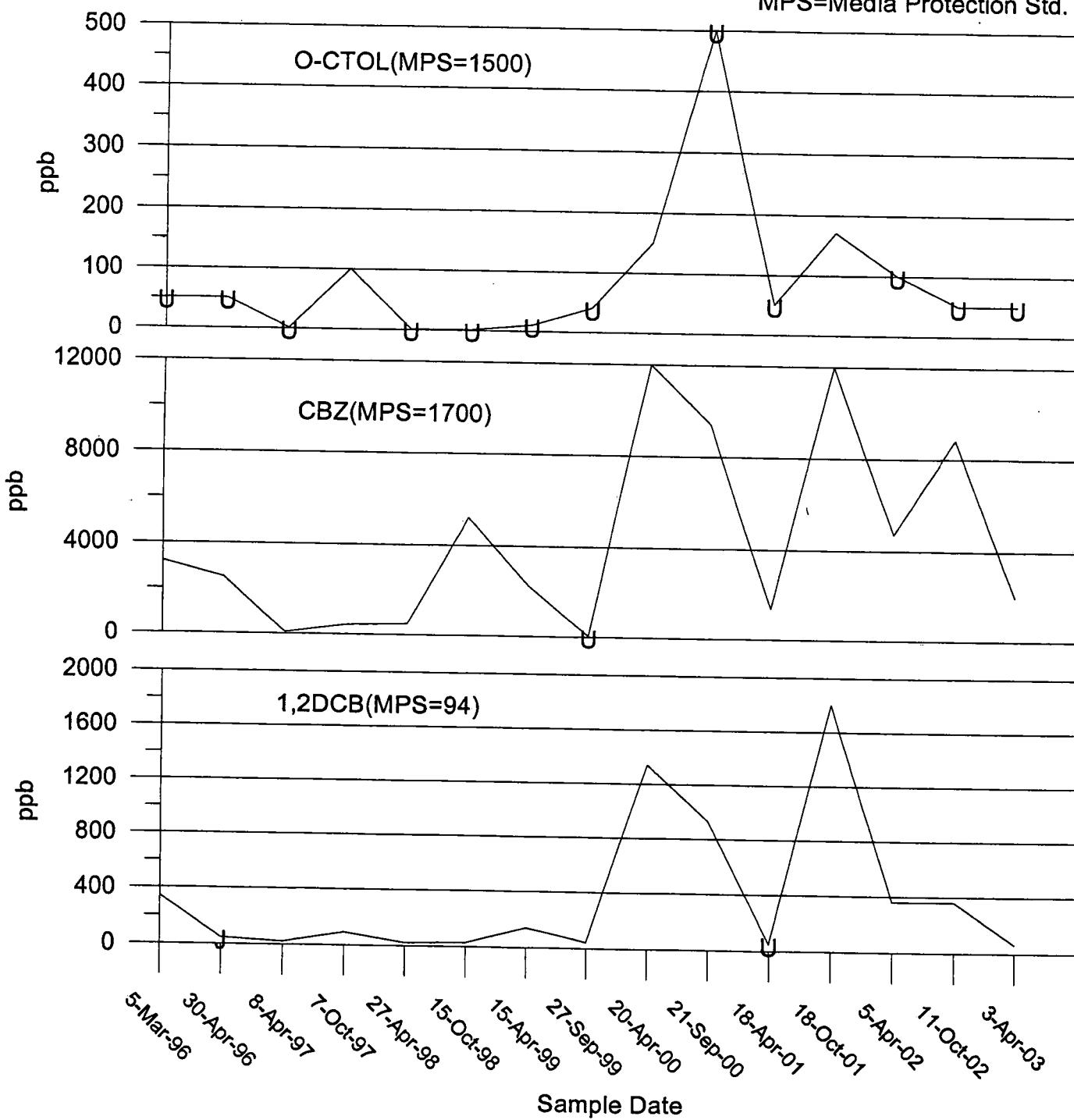
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



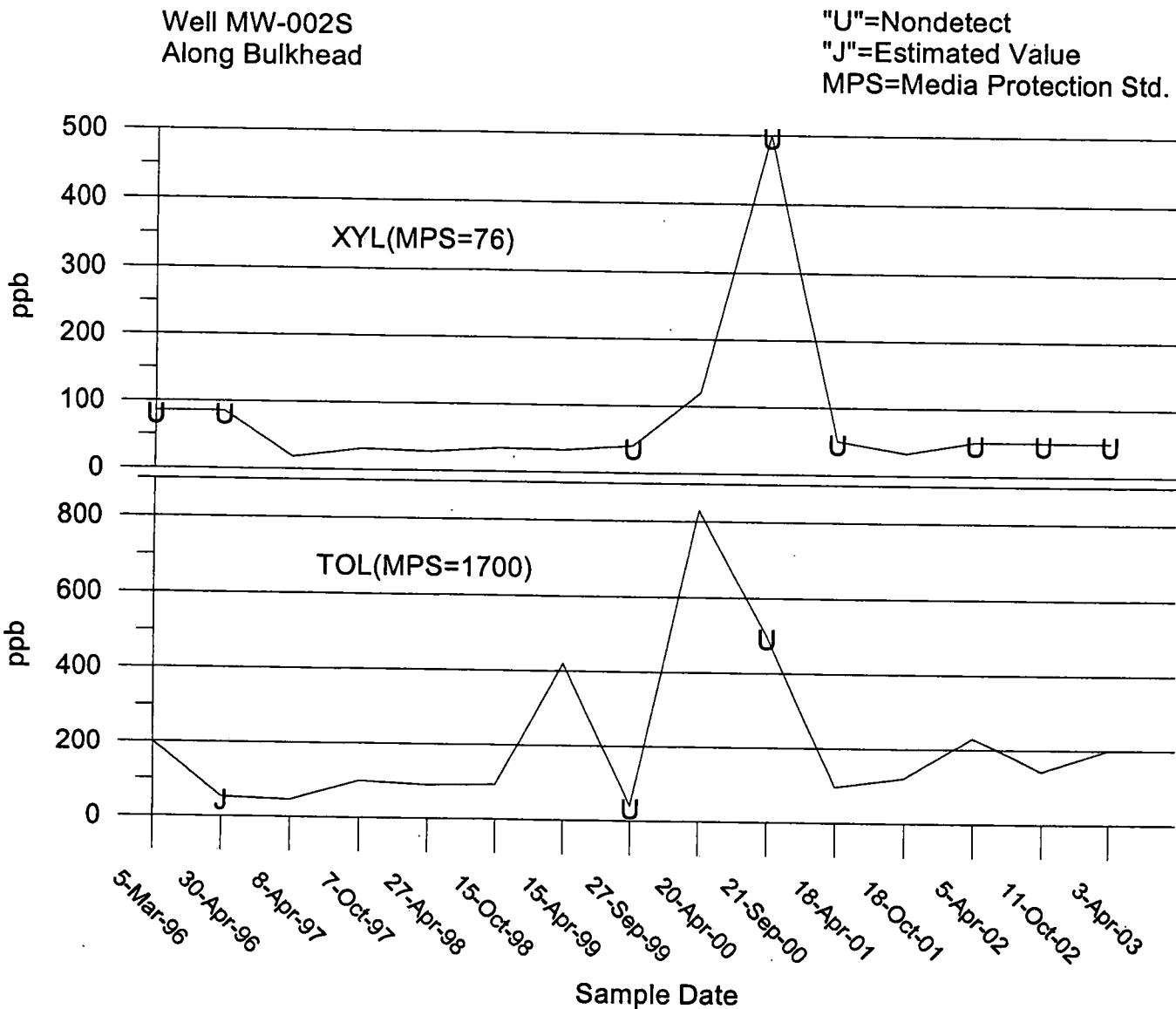
Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-002S
Along Bulkhead

"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



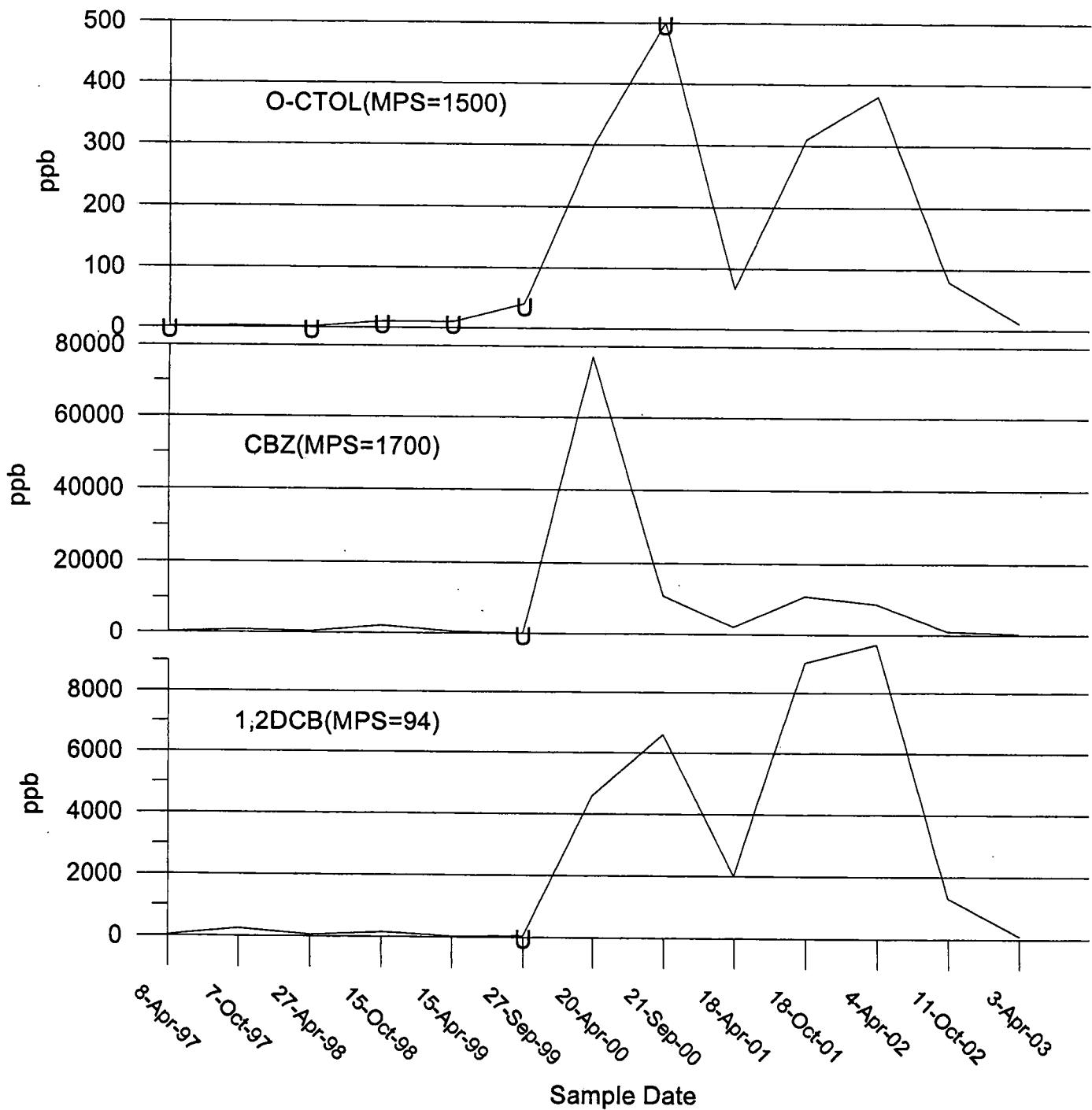
Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-035S
Along Bulkhead

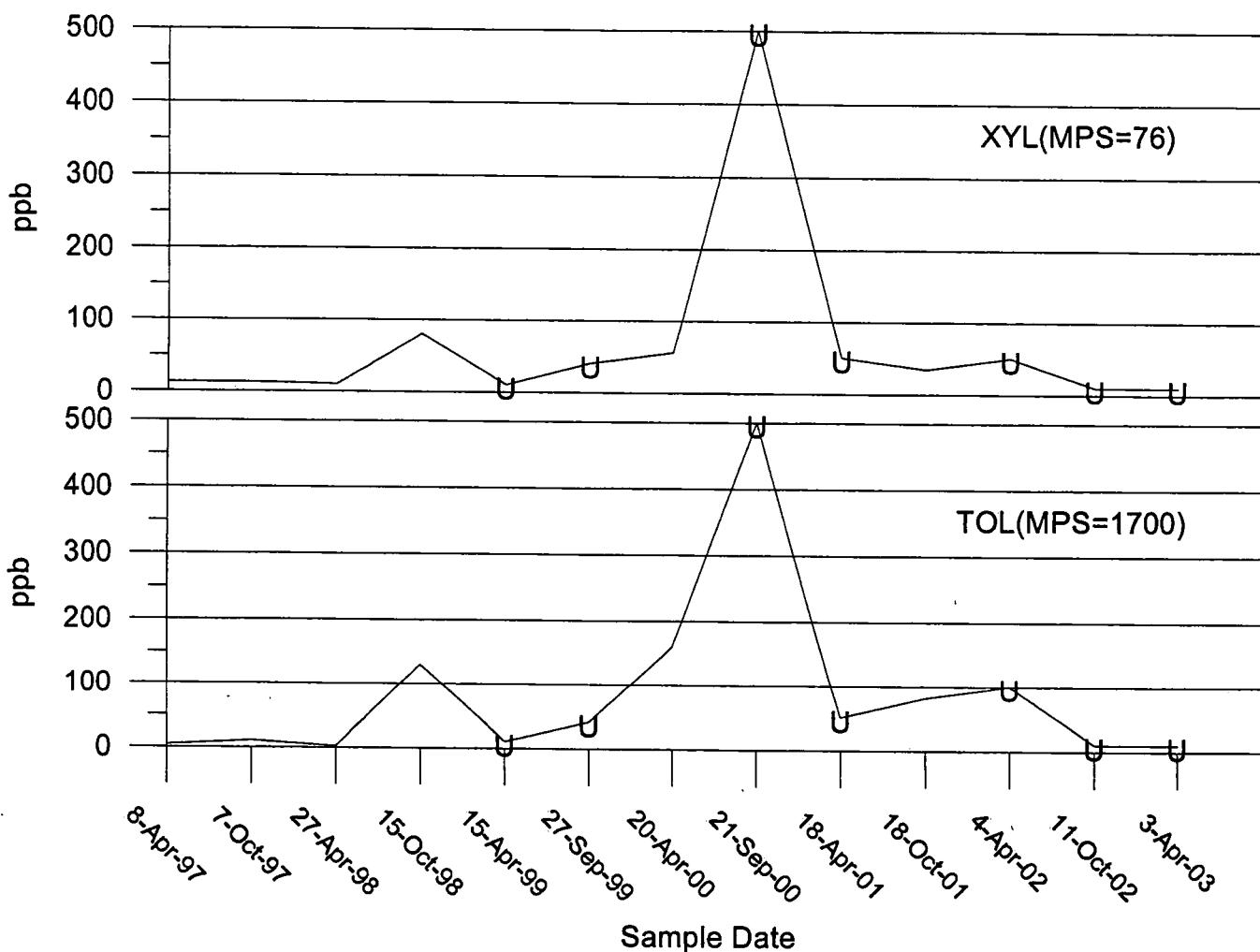
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-035S
Along Bulkhead

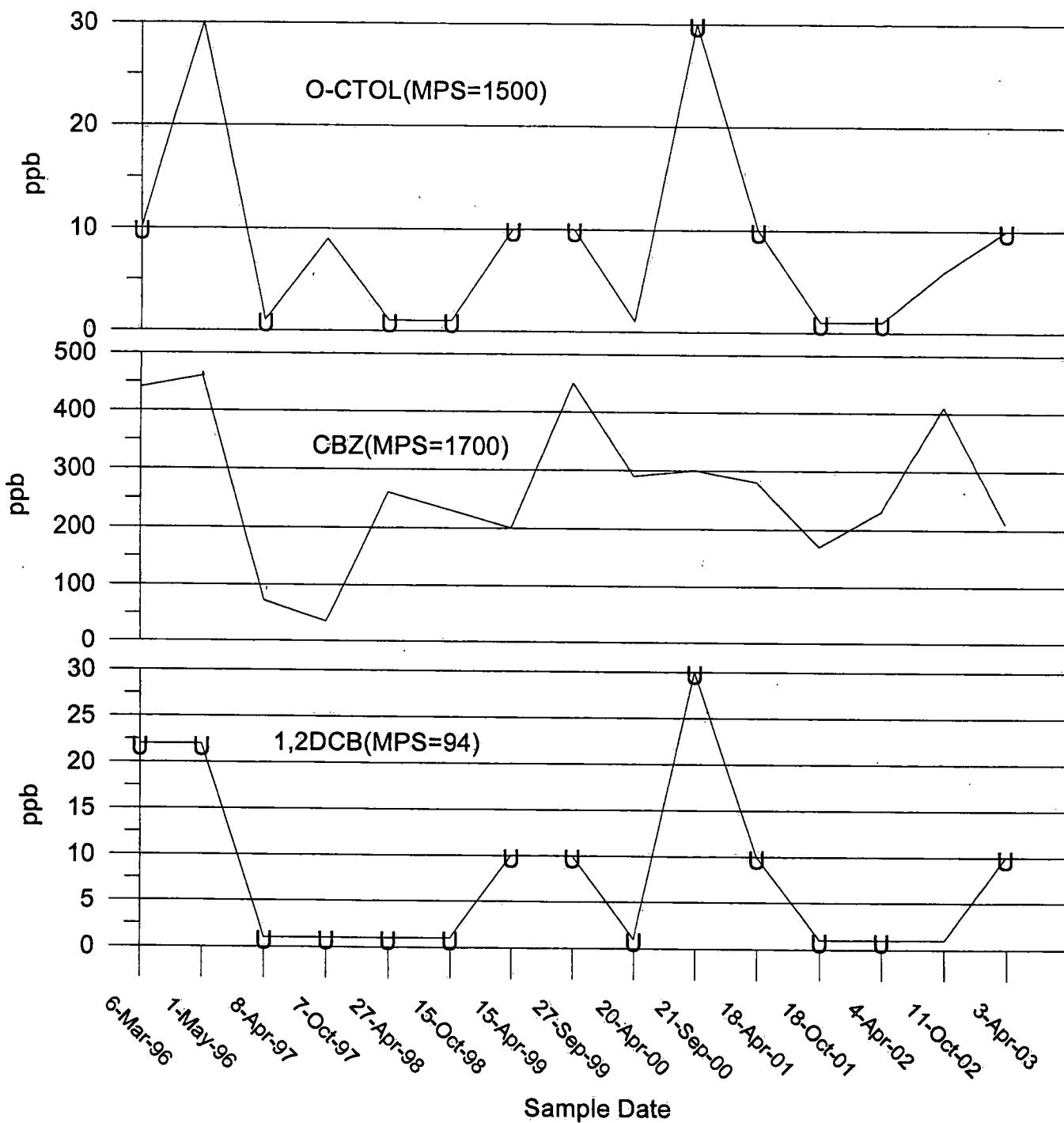
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-036S
Along Bulkhead

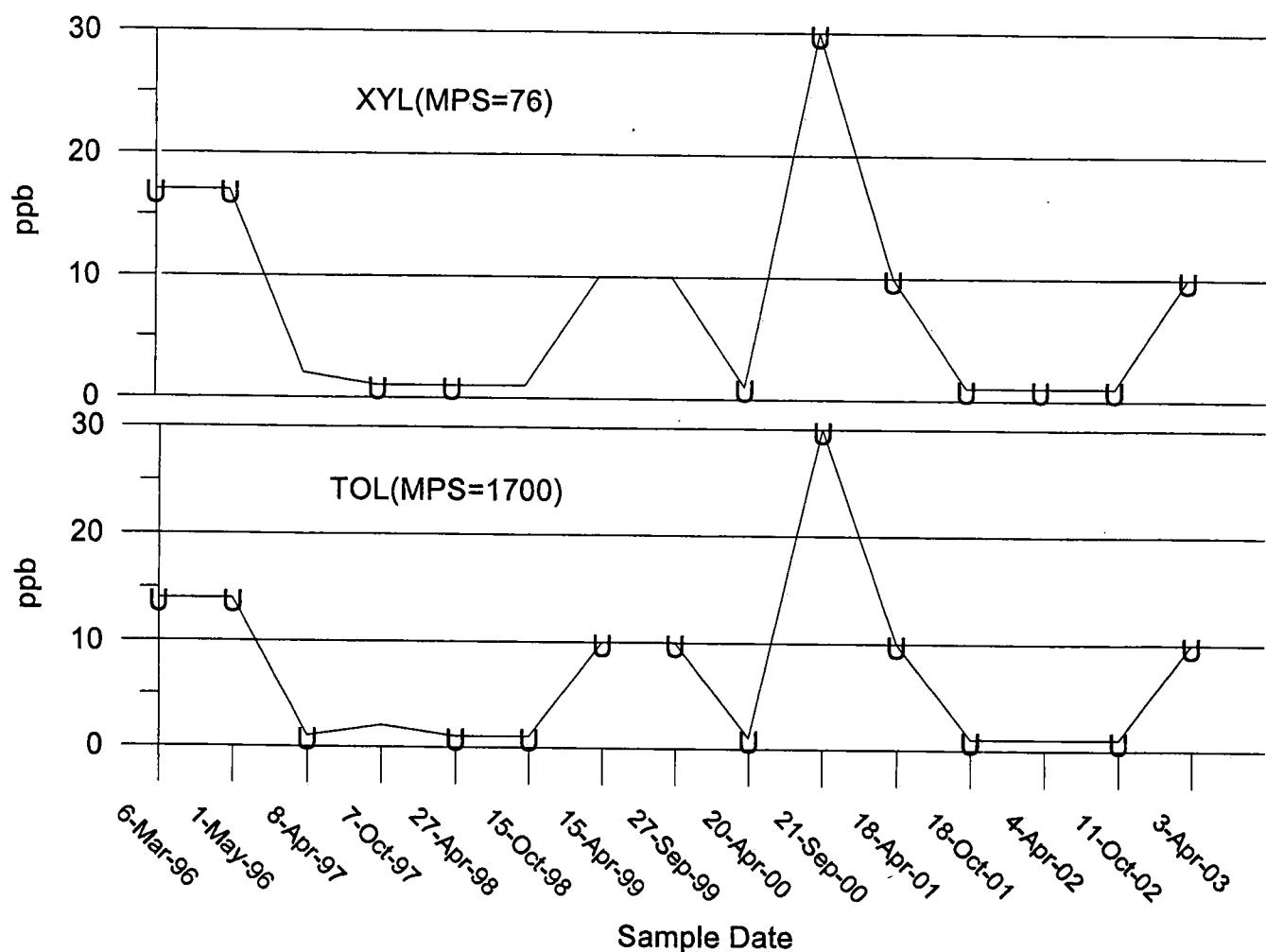
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-036S
Along Bulkhead

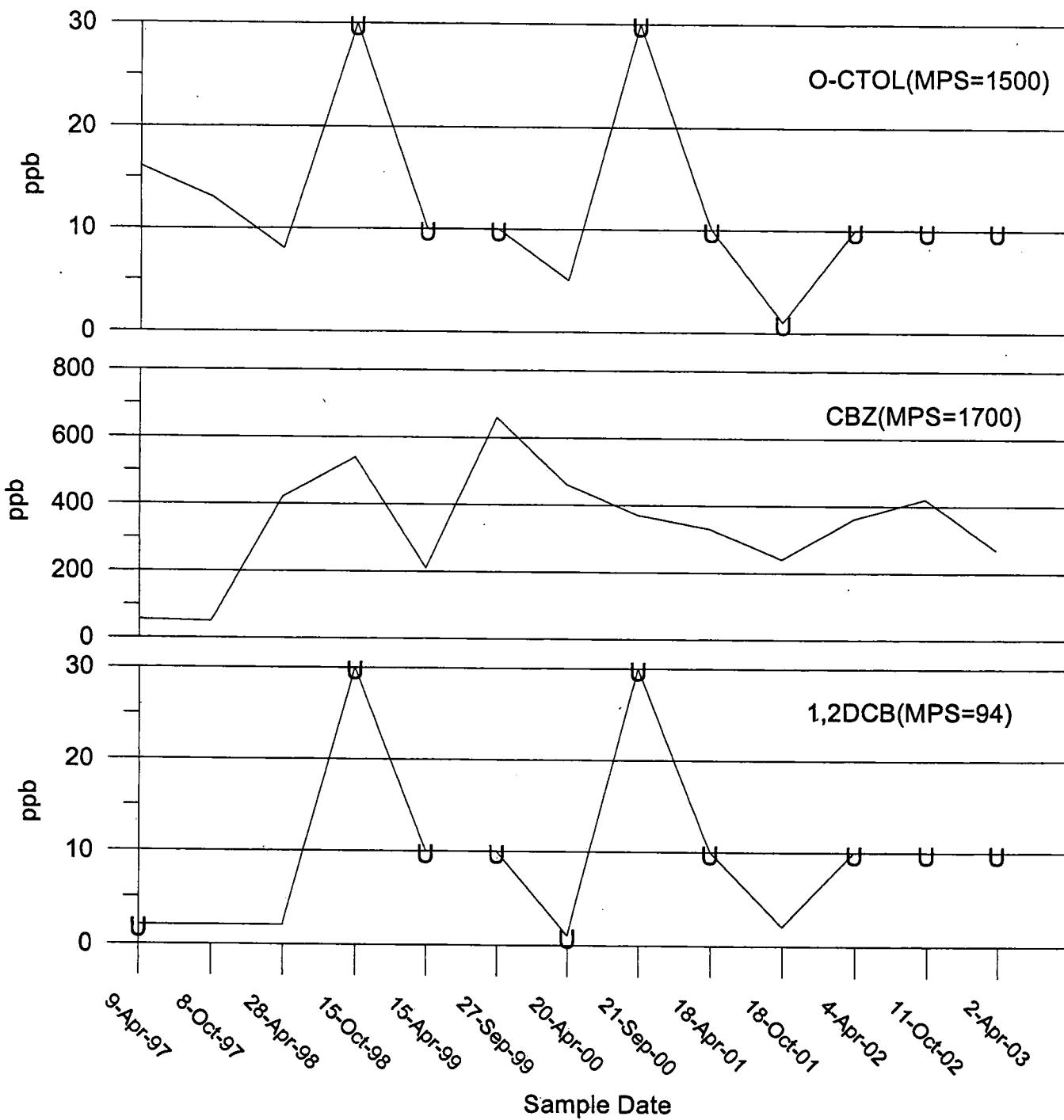
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-037S
Along Bulkhead

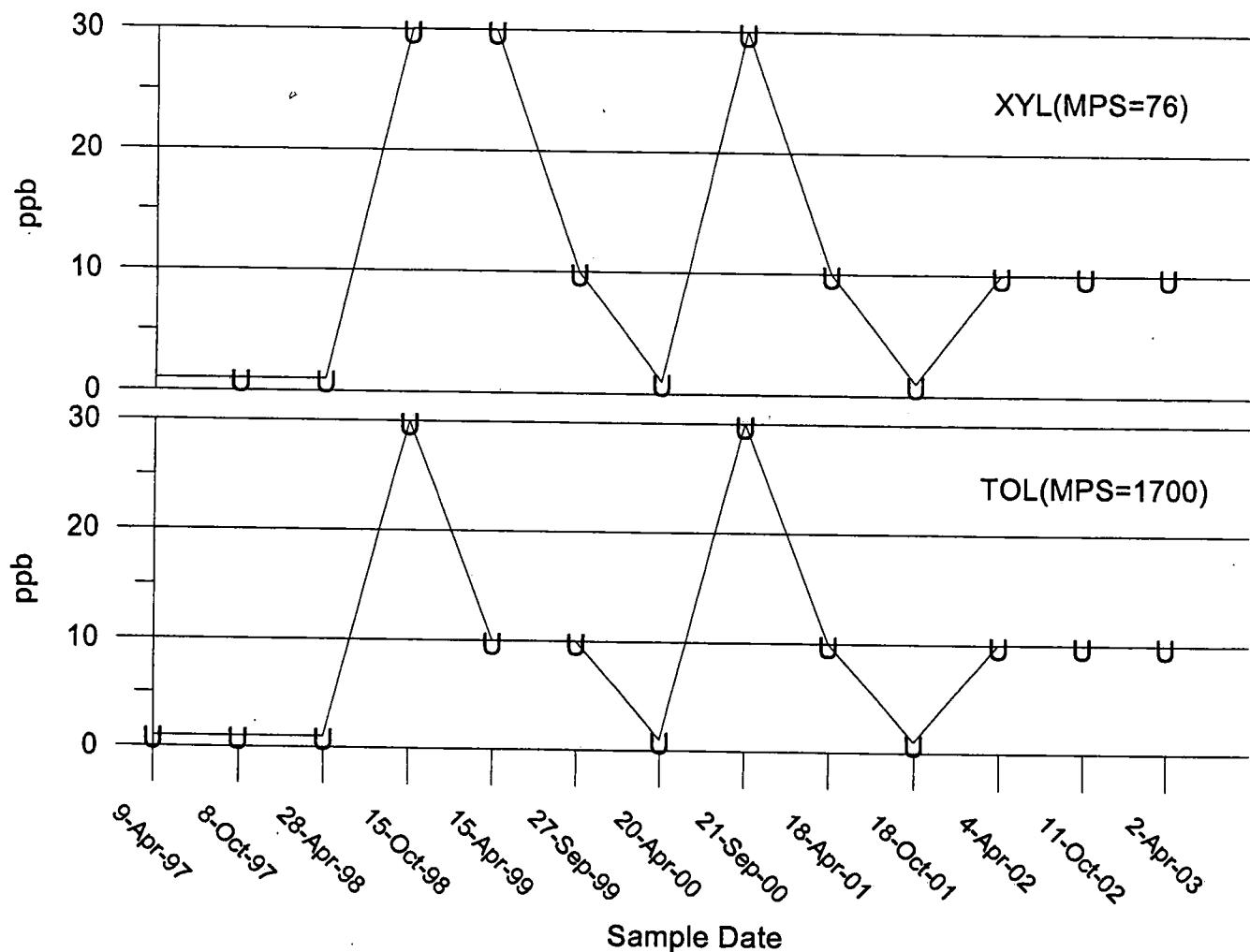
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-037S
Along Bulkhead

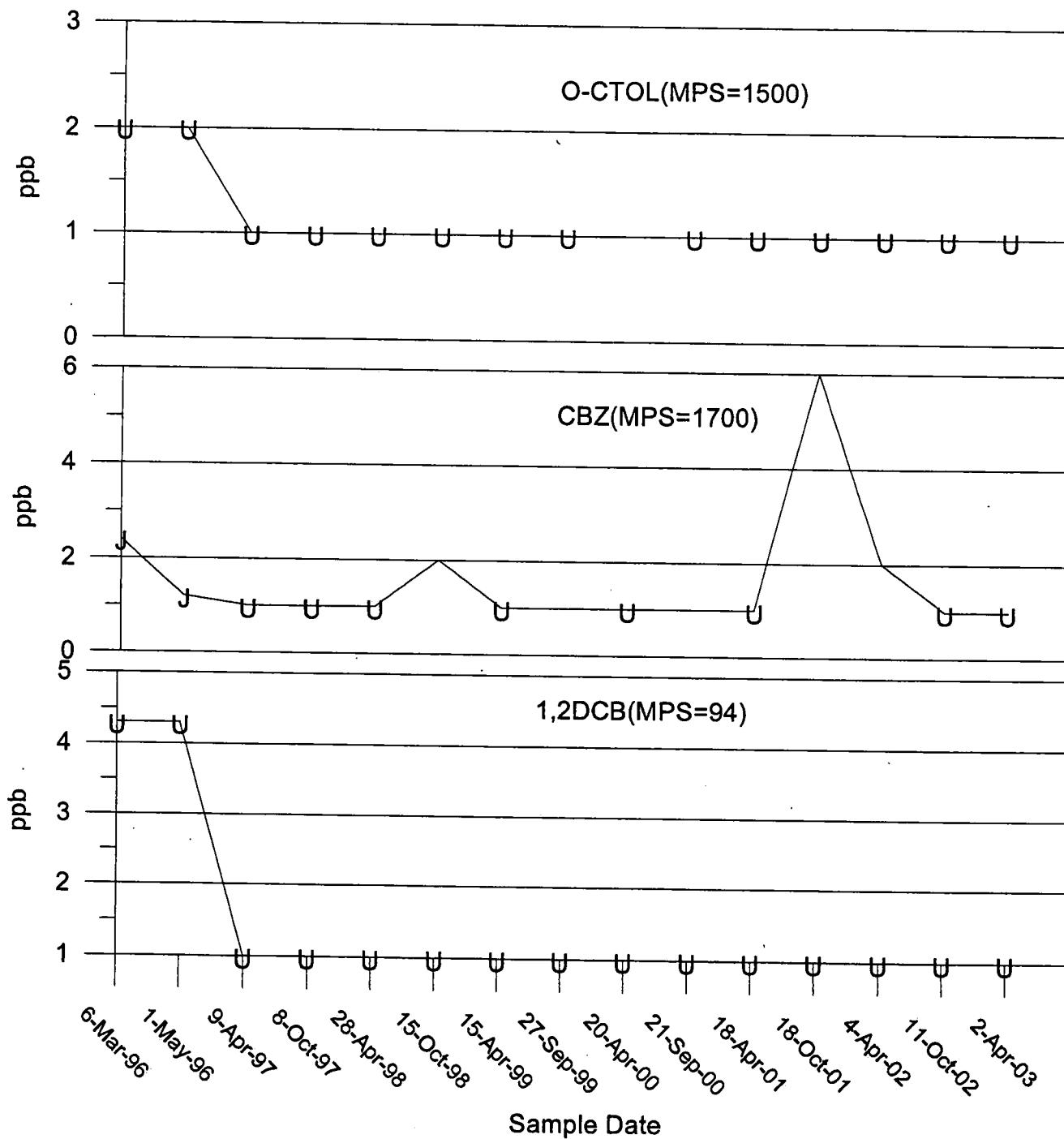
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-038S
Along Bulkhead

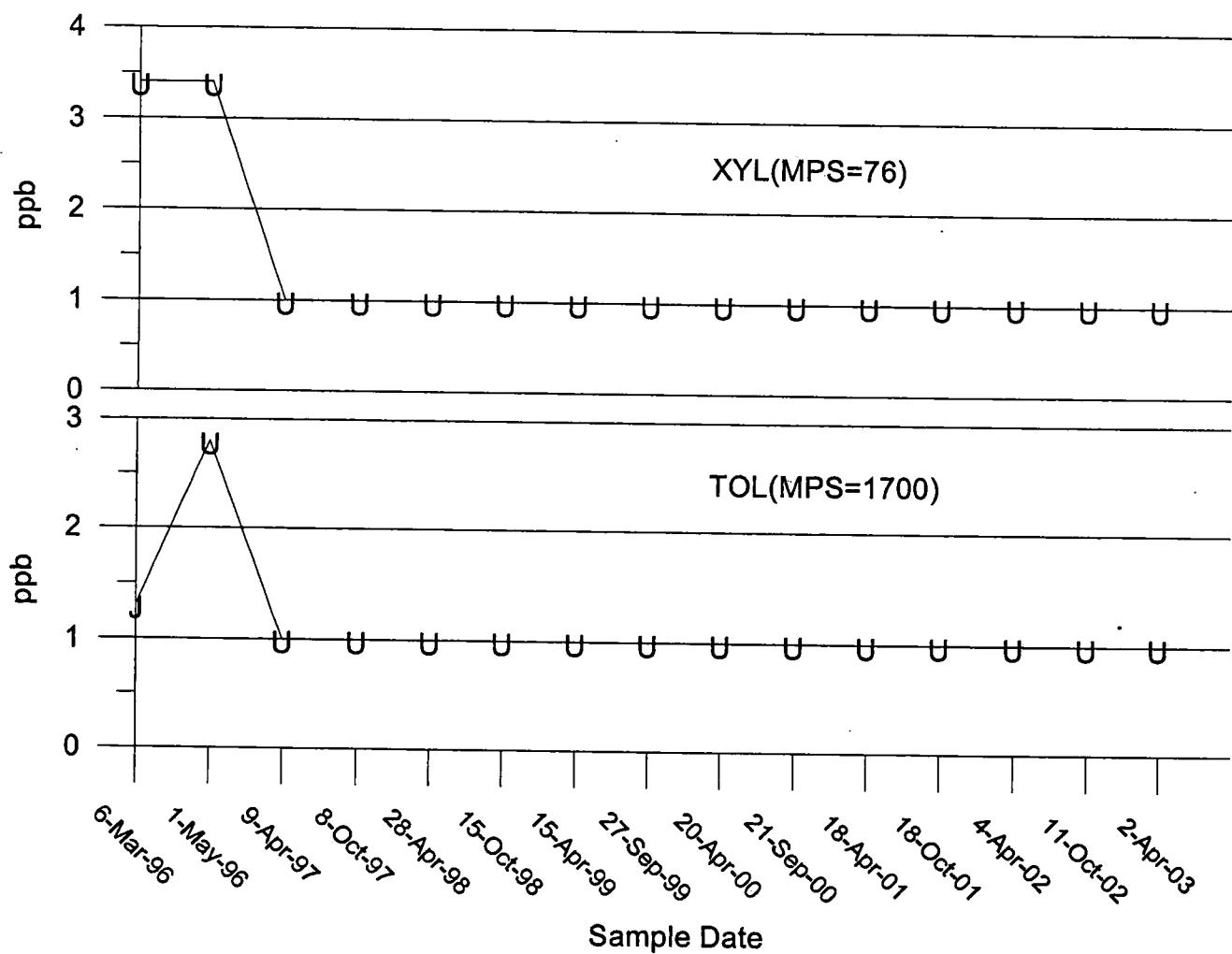
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-038S
Along Bulkhead

"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



APPENDIX D
TIME-SERIES GRAPHS
FOR
IN-RIVER WELLS

Table 5
IN-RIVER WELLS
Cumulative Results for Chemicals Of Concern
(Units In ppb)

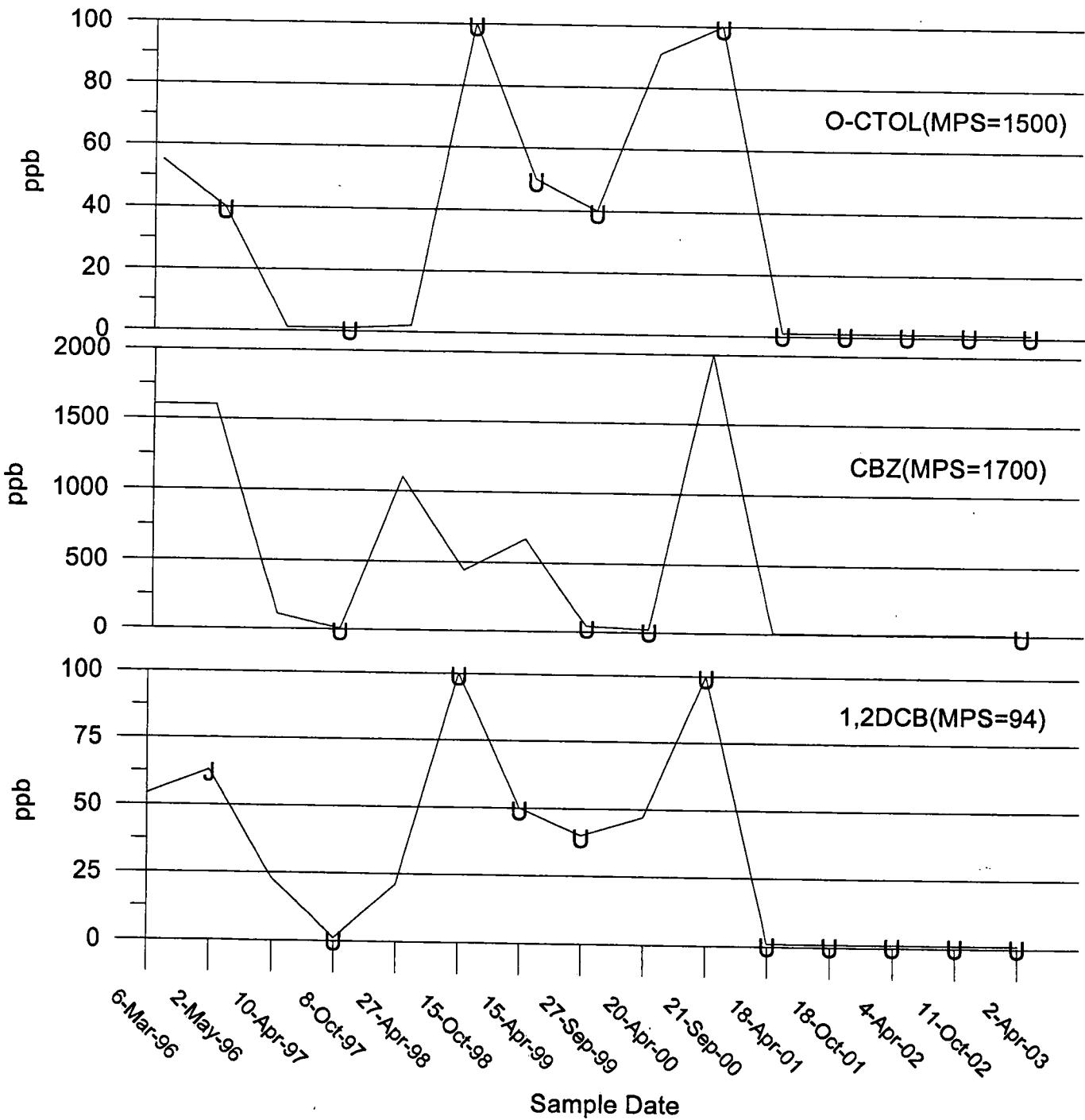
| Well No. | Date Sampled | 1,2-Dichloro-benzene | Chloro-benzene | o-Chloro-toluene | Toluene | Xylenes |
|----------|--------------|----------------------|----------------|------------------|---------|---------|
| MPS | | 94 | 1700 | 1500 | 1700 | 76 |
| SW-110 | 6-Mar-96 | 54 | 1600 | 55 | 460 | 34 U |
| SW-110 | 2-May-96 | 63 J | 1600 | 40 U | 220 | 68 U |
| SW-110 | 10-Apr-97 | 23 | 110 | 1 | 62 | 8 |
| SW-110 | 8-Oct-97 | 1 U | 1 U | 1 U | 1 U | 1 U |
| SW-110 | 27-Apr-98 | 21 | 1100 | 2 | 170 | 6 |
| SW-110 | 15-Oct-98 | 100 U | 440 | 100 U | 100 U | 100 U |
| SW-110 | 15-Apr-99 | 50 U | 670 | 50 U | 50 U | 50 U |
| SW-110 | 27-Sep-99 | 40 U | 2500 | 40 U | 220 | 40 U |
| SW-110 | 20-Apr-00 | 47 | 20 U | 91 | 380 | 20 U |
| SW-110 | 21-Sep-00 | 100 U | 2000 | 100 U | 820 | 100 U |
| SW-110 | 18-Apr-01 | 1 U | 3 | 1 U | 1 U | 1 U |
| SW-110 | 18-Oct-01 | 1 U | 2 | 1 U | 1 U | 1 U |
| SW-110 | 4-Apr-02 | 1 U | 2 | 1 U | 1 U | 1 U |
| SW-110 | 11-Oct-02 | 1 U | 5 | 1 U | 1 U | 1 U |
| SW-110 | 2-Apr-03 | 1 U | 1 U | 1 U | 1 U | 1 U |
| SW-120 | 5-Mar-96 | 4.3 U | 63 | 2 U | 2.8 U | 3.4 U |
| SW-120 | 30-Apr-96 | 4.3 U | 70 | 2 U | 2.8 U | 3.4 U |
| SW-120 | 8-Apr-97 | 1 U | 43 | 1 U | 1 U | 1 U |
| SW-120 | 7-Oct-97 | 1 | 39 | 39 | 31 | 2 |
| SW-120 | 27-Apr-98 | 1 U | 54 | 1 U | 1 U | 1 U |
| SW-120 | 15-Oct-98 | 1 U | 36 | 1 U | 1 U | 1 U |
| SW-120 | 15-Apr-99 | 10 U | 92 | 10 U | 10 U | 10 U |
| SW-120 | 27-Sep-99 | 10 U | 68 | 10 U | 10 U | 10 U |
| SW-120 | 20-Apr-00 | 1 U | 67 | 1 U | 1 U | 1 U |
| SW-120 | 21-Sep-00 | 9100 | 1800 | 500 U | 500 U | 500 U |
| SW-120 | 18-Apr-01 | 1 U | 58 | 1 U | 1 U | 1 U |
| SW-120 | 18-Oct-01 | 2 | 54 | 1 U | 1 U | 1 U |
| SW-120 | 5-Apr-02 | 1 U | 39 | 1 U | 1 U | 1 U |
| SW-120 | 11-Oct-02 | 1 U | 47 | 1 U | 1 U | 1 U |
| SW-120 | 2-Apr-03 | 1 U | 45 | 1 U | 1 U | 1 U |
| SW-130 | 6-Mar-96 | 4.3 U | 3 U | 6.5 | 2.8 U | 3.4 U |
| SW-130 | 1-May-96 | 4.3 U | 3 U | 12 | 2.8 U | 3.4 U |
| SW-130 | 9-Apr-97 | 1 U | 1 | 12 | 1 U | 1 U |
| SW-130 | 7-Oct-97 | 1 U | 1 U | 2 | 1 U | 1 U |
| SW-130 | 27-Apr-98 | 1 U | 27 | 14 | 1 U | 1 U |
| SW-130 | 15-Oct-98 | 1 U | 1 U | 1 | 1 U | 1 U |
| SW-130 | 15-Apr-99 | 1 U | 5 | 5 | 1 U | 1 U |
| SW-130 | 27-Sep-99 | 1 U | 1 | 2 | 1 U | 1 U |
| SW-130 | 20-Apr-00 | 1 | 10 | 30 | 1 U | 1 |
| SW-130 | 21-Sep-00 | 5 U | 5 U | 5 U | 5 U | 5 U |
| SW-130 | 19-Apr-01 | 1 U | 1 U | 1 U | 1 U | 1 U |
| SW-130 | 18-Oct-01 | 1 U | 12 | 1 U | 1 U | 1 U |
| SW-130 | 4-Apr-02 | 1 U | 1 U | 1 U | 1 U | 1 U |
| SW-130 | 11-Oct-02 | 1 U | 1 U | 1 U | 1 U | 1 U |
| SW-130 | 2-Apr-03 | NA | NA | NA | NA | NA |

MPS = Media Protection Standard
U = Nondetect with detection limit given
J = Estimated value

Ciba Specialty Chemicals Corp
 Cranston Rhode Island Facility
 Time-Series Graph
 Semiannual Monitoring

Well SW-110
 In-River Wells

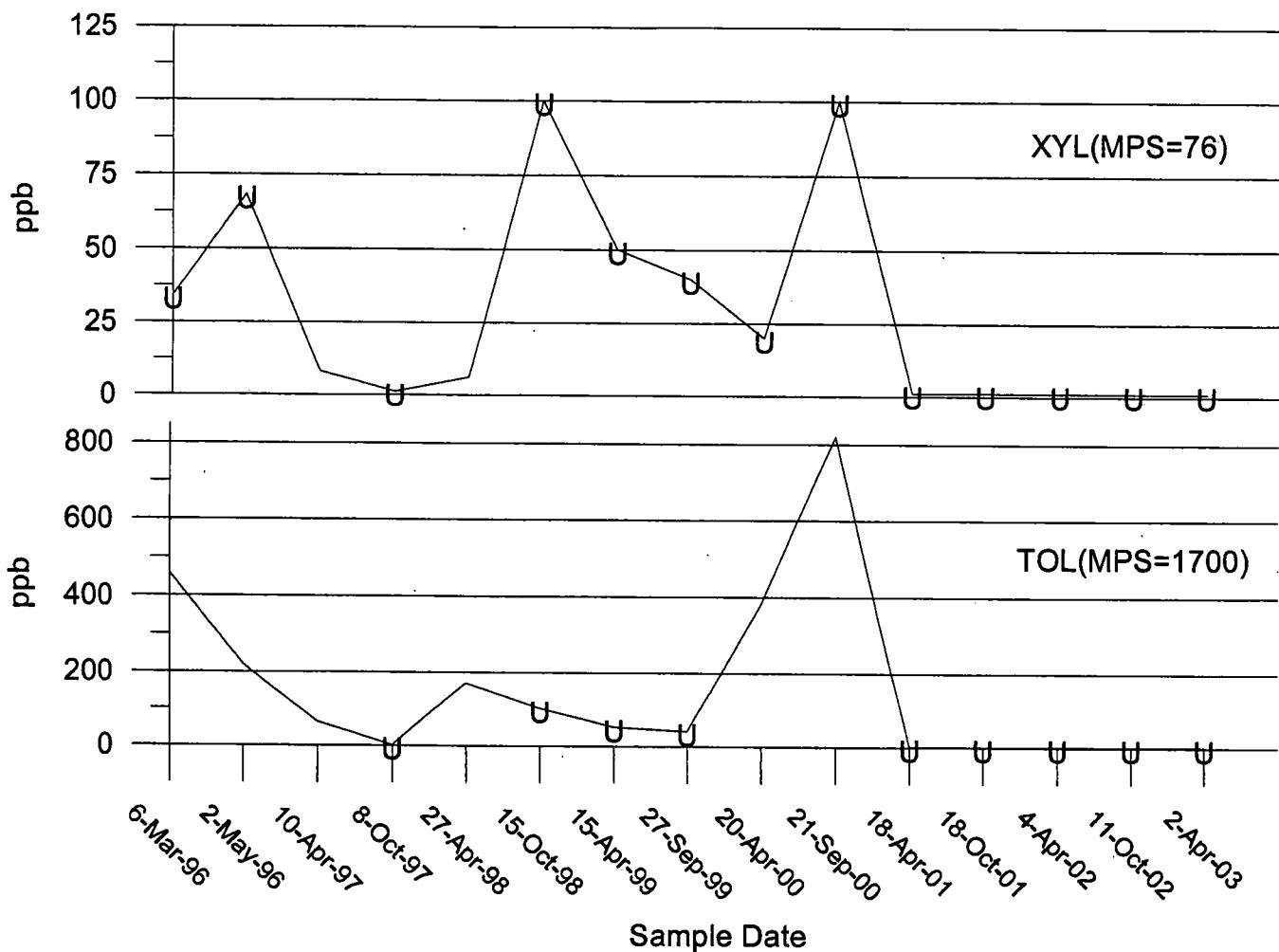
"U"=Nondetect
 "J"=Estimated Value
 MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well SW-110
In-River Well

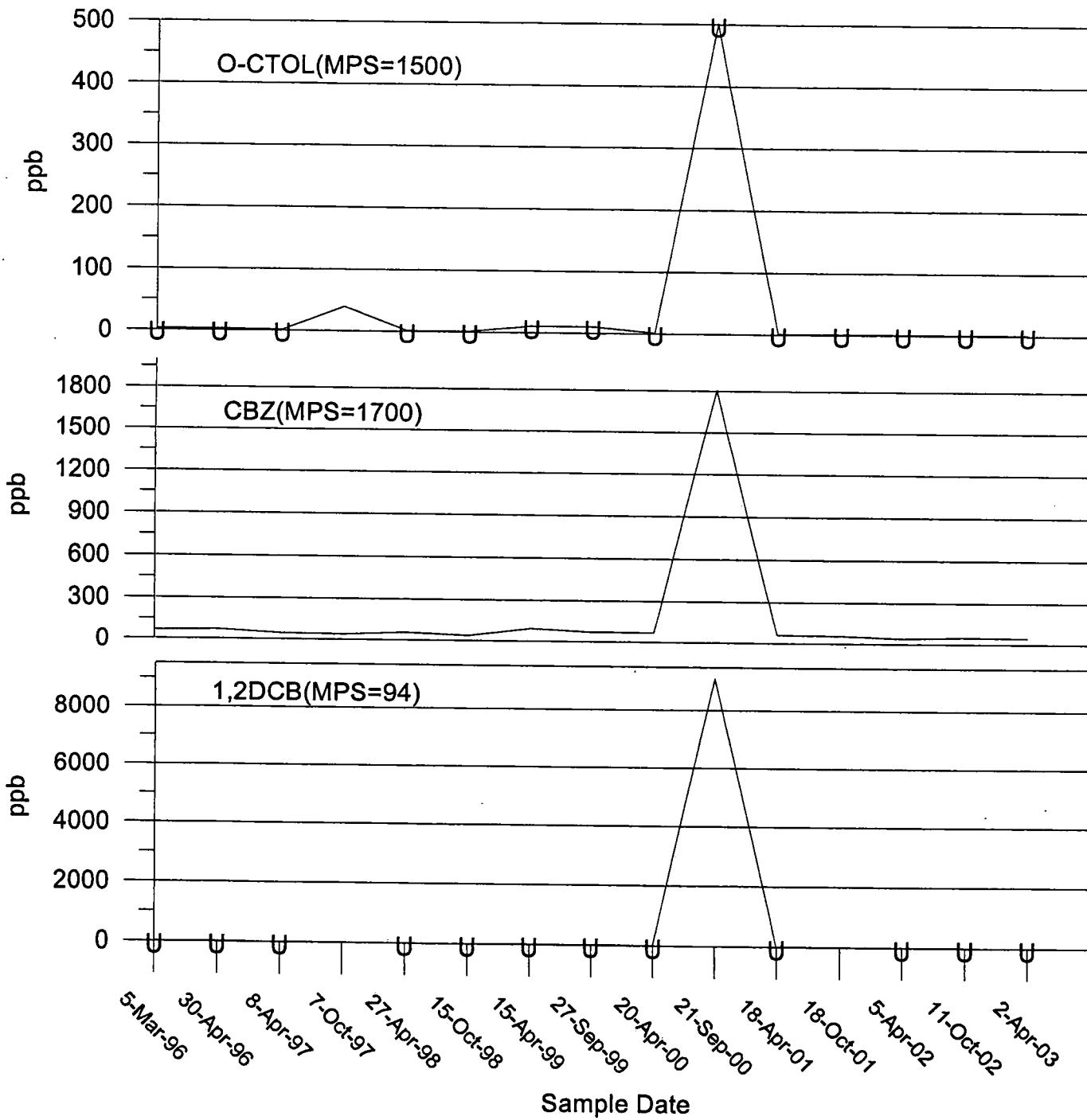
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well SW-120
In-River Well

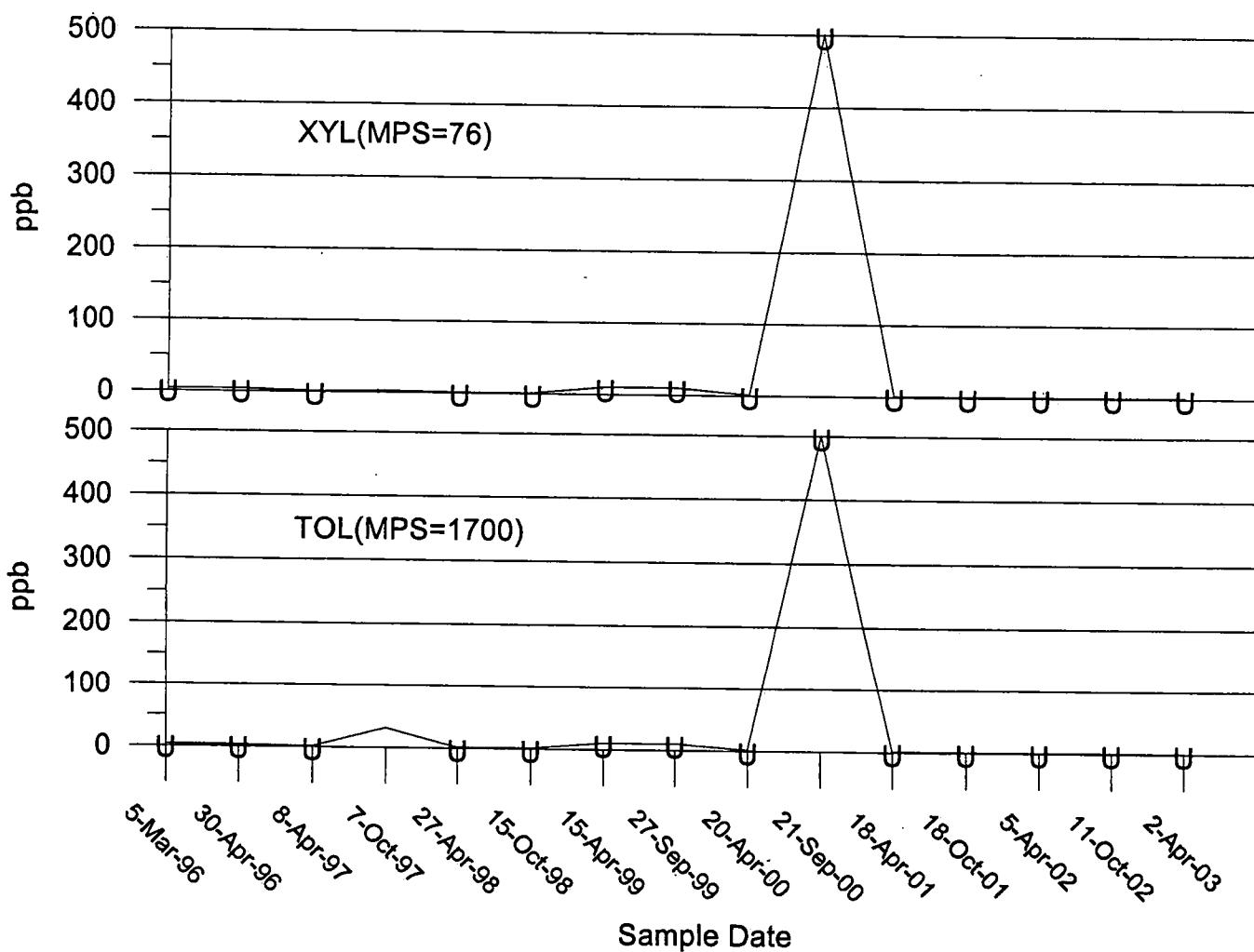
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well SW-120
In-River Well

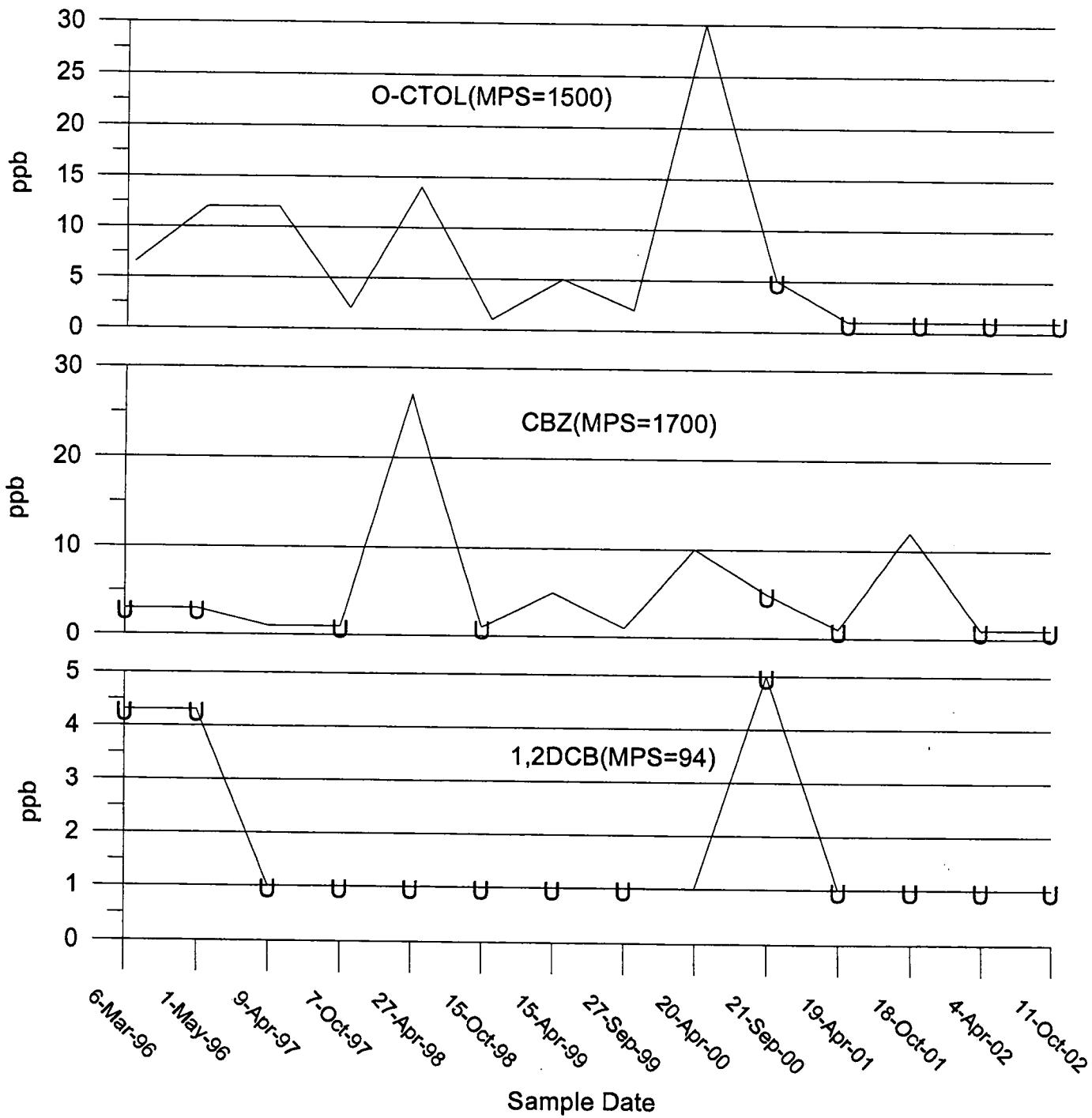
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well SW-130
In-River Well

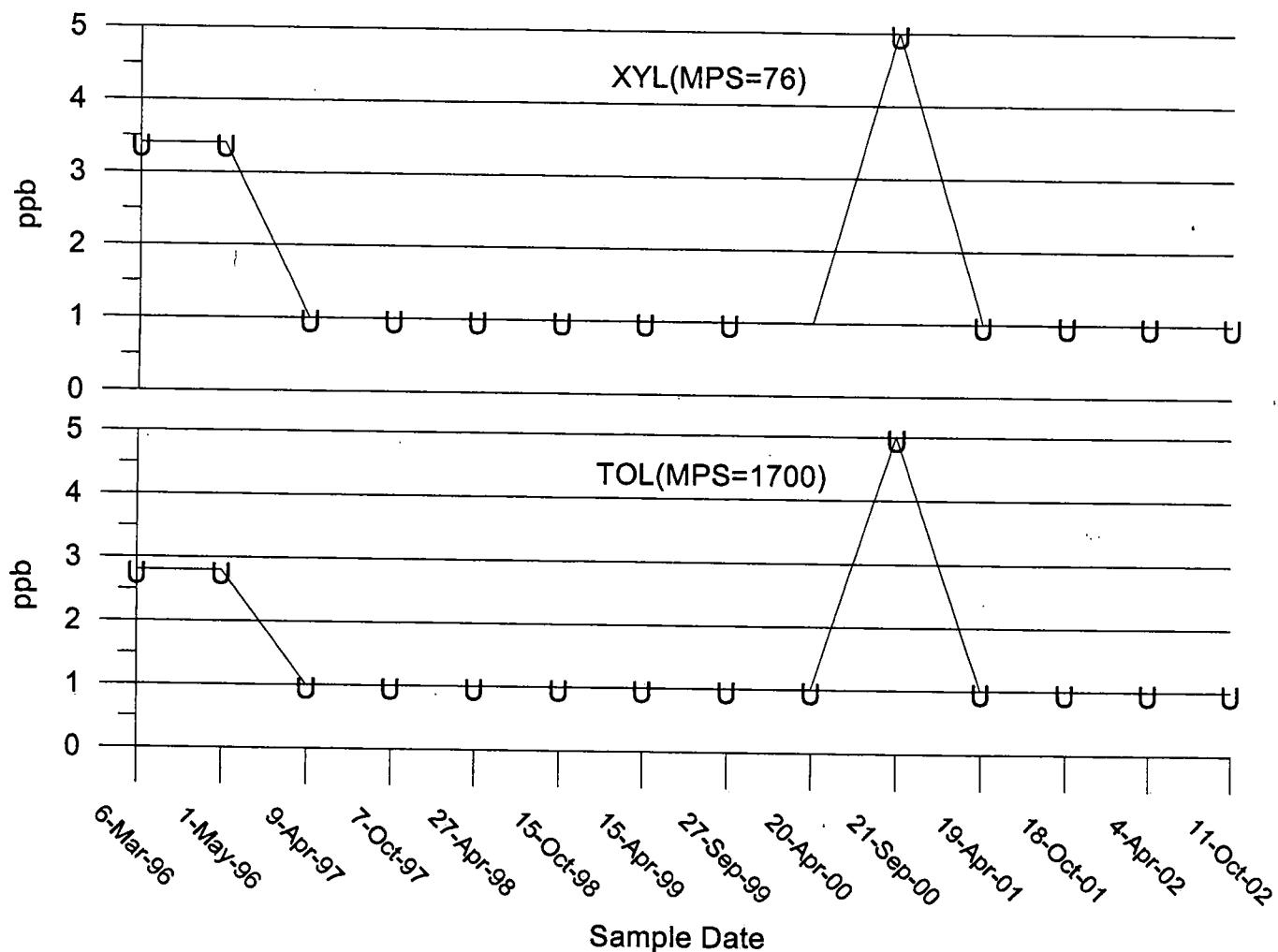
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well SW-130
In-River Well

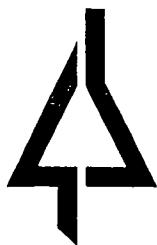
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



APPENDIX E

CERTIFICATE OF ANALYSIS

R. I. ANALYTICAL



R.I. Analytical

Specialists in Environmental Services

1 of 37

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
Attn: Mr. Barry Cohen
180 Mill Street
Cranston, RI 02905

Date Received: 04/03/2003
Date Reported: 04/10/2003
P.O. #: T0092805
Work Order #: 0304-04231

DESCRIPTION CIBA GEIGY, MILL STREET MW'S SAMPLES BY RIAL PERSONNEL

Subject sample(s) has/have been analyzed by our laboratory with the attached results.

Reference: All parameters were analyzed by U.S. EPA approved methodologies and all NELAC requirements were met. The specific methodologies are listed in the methods column of the Certificate Of Analysis.

Data qualifiers (if present) are explained in full at the end of a given sample's analytical results.

Certification #: RI-033, MA-RI015, CT-PH-0508, ME-RI015
NH-253700 A & B, USDA S-41844, NY-11726

If you have any questions regarding this work, or if we may be of further assistance, please contact us.

Approved by:

Paul Perrotti
Data Reporting Manager

enc: Chain of Custody

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
 Date Received: 04/03/2003
 Work Order #: 0304-04231

Approved by:

R.I. Analytical

Sample #: 001

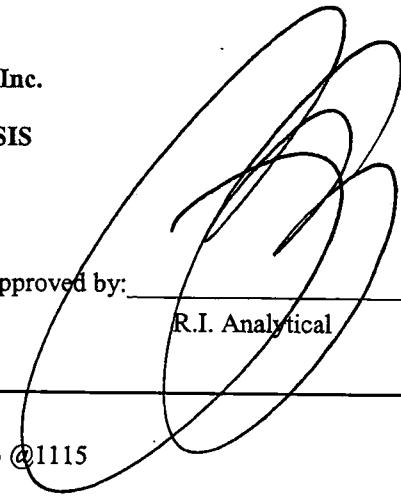
SAMPLE

PW-110 PUMP HOUSE GRAB 04/02/03 @1115

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|-----------------------------|----------------|------------|----------|-----------|---------------|---------|
| pH (field) | 6.9 | | SU | EPA 150.1 | 04/02/2003 | JEC |
| TEMPERATURE (field) | 65 | | F | EPA 170.1 | 04/02/2003 | JEC |
| SPECIFIC CONDUCTANCE | 350 | 1 | uMHOS/CM | EPA 120.1 | 04/02/2003 | JEC |
| DISSOLVED OXYGEN | <1.0 | 1.0 | mg/l | EPA 360.1 | 04/02/2003 | JEC |
| Volatile Organic Compounds | | | | | | |
| chloromethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| Bromomethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| vinyl chloride | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| dichlorodifluoromethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| chloroethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| methylene chloride | <5 | 5 | ug/l | 8260 | 04/09/2003 | BAS |
| trichlorofluoromethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1-dichloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1-dichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| trans-1,2-Dichloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| chloroform | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,2-dichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1,1-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| carbon tetrachloride | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Bromodichloromethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,2-dichloropropane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| cis-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Trichloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| trans-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1,2-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Dibromochloromethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Bromoform | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Tetrachloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1,2,2-Tetrachloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Chlorobenzene | 26 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 2-chloroethyl vinyl ether | <2 | 2 | ug/l | 8260 | 04/09/2003 | BAS |
| Benzene | 2 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| toluene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| ethylbenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| xylenes(Total) | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| acetone | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| Carbon disulfide | <5 | 5 | ug/l | 8260 | 04/09/2003 | BAS |
| 2-butanone(MEK) | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| vinyl acetate | <50 | 50 | ug/l | 8260 | 04/09/2003 | BAS |
| 4-methyl-2-pentanone(MIBK) | <50 | 50 | ug/l | 8260 | 04/09/2003 | BAS |
| 2-hexanone | <50 | 50 | ug/l | 8260 | 04/09/2003 | BAS |
| Styrene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| o-chlorotoluene | 11 | 1 | ug/l | 8260 | 04/09/2003 | BAS |

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS



Approved by:

R.I. Analytical

Ciba Specialty Chemicals Corp.
 Date Received: 04/03/2003
 Work Order #: 0304-04231

Sample #: 001

SAMPLE

PW-110 PUMP HOUSE GRAB 04/02/03 @1115

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|----------------------|----------------|------------|---------|--------|---------------|---------|
| 1,2-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,3-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,4-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Surrogates | | | RANGE | 8260 | 04/09/2003 | BAS |
| Dibromofluoromethane | 100 | | 86-118% | 8260 | 04/09/2003 | BAS |
| 4-Bromofluorobenzene | 101 | | 86-115% | 8260 | 04/09/2003 | BAS |
| Toluene-D8 | 101 | | 88-110% | 8260 | 04/09/2003 | BAS |

R.I. Analytical Laboratories, Inc.

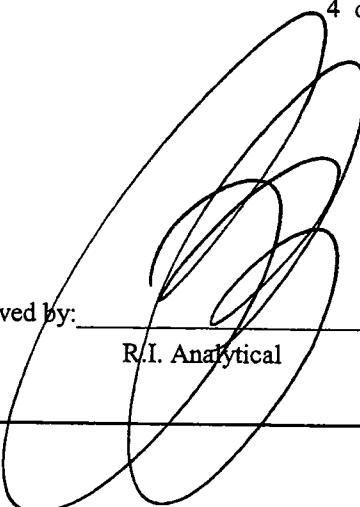
CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 04/03/2003

Work Order #: 0304-04231

Approved by:


R.I. Analytical

Sample #: 002

SAMPLE

MW-01S GRAB 04/02/03 @1200

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|----------------------|----------------|------------|----------|-----------|---------------|---------|
| pH (field) | 6.9 | | SU | EPA 150.1 | 04/02/2003 | JEC |
| TEMPERATURE (field) | 56 | | F | EPA 170.1 | 04/02/2003 | JEC |
| SPECIFIC CONDUCTANCE | 1050 | 1 | uMHOS/CM | EPA 120.1 | 04/02/2003 | JEC |
| DISSOLVED OXYGEN | 1.9 | 1.0 | mg/l | EPA 360.1 | 04/02/2003 | JEC |

Volatile Organic Compounds

| | | | | | | |
|-----------------------------|------|-----|------|------|------------|-----|
| chloromethane | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromomethane | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl chloride | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| dichlorodifluoromethane | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroethane | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| methylene chloride | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| trichlorofluoromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,2-Dichloroethylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroform | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,1-Trichloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| carbon tetrachloride | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromodichloromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloropropene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| cis-1,3-Dichloropropylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Trichloroethylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,3-Dichloropropylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2-Trichloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Dibromochloromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromoform | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Tetrachloroethylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2,2-Tetrachloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Chlorobenzene | 320 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-chloroethyl vinyl ether | <20 | 20 | ug/l | 8260 | 04/08/2003 | BAS |
| Benzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| toluene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| ethylbenzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| xylenes(Total) | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| acetone | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| Carbon disulfide | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-butanone(MEK) | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl acetate | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| 4-methyl-2-pentanone(MIBK) | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-hexanone | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| Styrene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| o-chlorotoluene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |

R.I. Analytical Laboratories, Inc.**CERTIFICATE OF ANALYSIS**

Ciba Specialty Chemicals Corp.

Date Received: 04/03/2003

Work Order #: 0304-04231

Approved by:

R.I. Analytical

Sample #: 002

SAMPLE

MW-01S GRAB 04/02/03 @1200

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|----------------------|-----------------------|-------------------|--------------|---------------|----------------------|----------------|
| 1,2-Dichlorobenzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,3-Dichlorobenzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,4-Dichlorobenzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Surrogates | | | RANGE | 8260 | 04/08/2003 | BAS |
| Dibromofluoromethane | 101 | | 86-118% | 8260 | 04/08/2003 | BAS |
| 4-Bromofluorobenzene | 102 | | 86-115% | 8260 | 04/08/2003 | BAS |
| Toluene-D8 | 100 | | 88-110% | 8260 | 04/08/2003 | BAS |

Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

6 of 37

Ciba Specialty Chemicals Corp.
Date Received: 04/03/2003
Work Order #: 0304-04231

Approved by:

R.I. Analytical

Sample #: 003

SAMPLE

SW-110 GRAB 04/02/03 @1150

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|-----------------------------|----------------|------------|----------|-----------|---------------|---------|
| pH (field) | 6.8 | | SU | EPA 150.1 | 04/02/2003 | JEC |
| TEMPERATURE (field) | 56 | | F | EPA 170.1 | 04/02/2003 | JEC |
| SPECIFIC CONDUCTANCE | 390 | 1 | uMHOS/CM | EPA 120.1 | 04/02/2003 | JEC |
| DISSOLVED OXYGEN | 5.0 | 1.0 | mg/l | EPA 360.1 | 04/02/2003 | JEC |
| Volatile Organic Compounds | | | | | | |
| chloromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromomethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl chloride | 2 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| dichlorodifluoromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| methylene chloride | <5 | 5 | ug/l | 8260 | 04/08/2003 | BAS |
| trichlorofluoromethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,2-Dichloroethylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroform | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloroethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,1-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| carbon tetrachloride | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromodichloromethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloropropane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| cis-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Trichloroethylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Dibromochloromethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromoform | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Tetrachloroethylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2,2-Tetrachloroethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Chlorobenzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-chloroethyl vinyl ether | <2 | 2 | ug/l | 8260 | 04/08/2003 | BAS |
| Benzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| toluene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| ethylbenzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| xylenes(Total) | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| acetone | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Carbon disulfide | <5 | 5 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-butanone(MEK) | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl acetate | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 4-methyl-2-pentanone(MIBK) | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-hexanone | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| Styrene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| o-chlorotoluene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 04/03/2003

Work Order #: 0304-04231

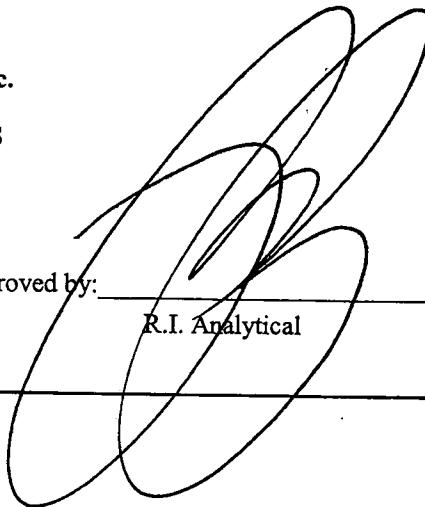
Approved by:

R.I. Analytical

Sample #: 003

SAMPLE

SW-110 GRAB 04/02/03 @1150

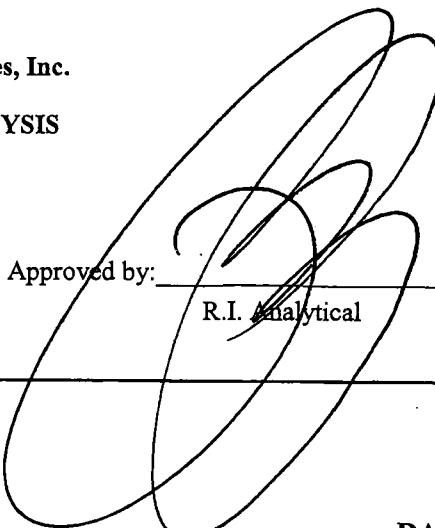


| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|----------------------|----------------|------------|---------|--------|---------------|---------|
| 1,2-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,3-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,4-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Surrogates | | | RANGE | 8260 | 04/08/2003 | BAS |
| Dibromofluoromethane | 103 | | 86-118% | 8260 | 04/08/2003 | BAS |
| 4-Bromofluorobenzene | 100 | | 86-115% | 8260 | 04/08/2003 | BAS |
| Toluene-D8 | 102 | | 88-110% | 8260 | 04/08/2003 | BAS |

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Approved by:


R.I. Analytical

Ciba Specialty Chemicals Corp.

Date Received: 04/03/2003

Work Order #: 0304-04231

Sample #: 004

SAMPLE

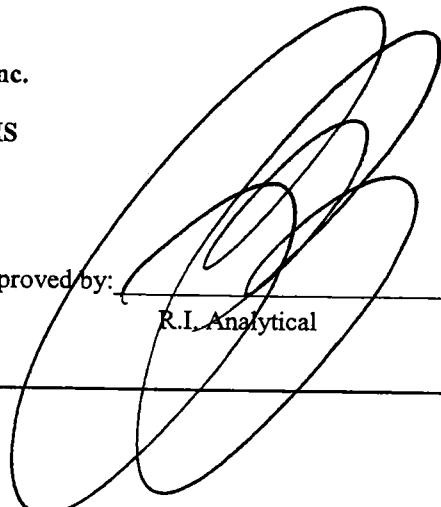
P-38S GRAB 04/02/03 @1300

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|-----------------------------|----------------|------------|----------|-----------|---------------|---------|
| pH (field) | 6.4 | | SU | EPA 150.1 | 04/02/2003 | JEC |
| TEMPERATURE (field) | 59 | | F | EPA 170.1 | 04/02/2003 | JEC |
| SPECIFIC CONDUCTANCE | 390 | 1 | uMHOS/CM | EPA 120.1 | 04/02/2003 | JEC |
| DISSOLVED OXYGEN | 2.2 | 1.0 | mg/l | EPA 360.1 | 04/02/2003 | JEC |
| Volatile Organic Compounds | | | | | | |
| chloromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromomethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl chloride | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| dichlorodifluoromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| methylene chloride | <5 | 5 | ug/l | 8260 | 04/08/2003 | BAS |
| trichlorofluoromethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,2-Dichloroethylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroform | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloroethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,1-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| carbon tetrachloride | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromodichloromethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloropropane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| cis-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Trichloroethylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Dibromochloromethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromoform | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Tetrachloroethylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2,2-Tetrachloroethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Chlorobenzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-chloroethyl vinyl ether | <2 | 2 | ug/l | 8260 | 04/08/2003 | BAS |
| Benzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| toluene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| ethylbenzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| xylenes(Total) | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| acetone | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Carbon disulfide | <5 | 5 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-butanone(MEK) | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl acetate | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 4-methyl-2-pentanone(MIBK) | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-hexanone | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| Styrene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| o-chlorotoluene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Approved by:



R.I. Analytical

Ciba Specialty Chemicals Corp.
 Date Received: 04/03/2003
 Work Order #: 0304-04231

Sample #: 004

SAMPLE

P-38S GRAB 04/02/03 @1300

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|----------------------|----------------|------------|---------|--------|---------------|---------|
| 1,2-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,3-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,4-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Surrogates | | | RANGE | 8260 | 04/08/2003 | BAS |
| Dibromofluoromethane | 101 | | 86-118% | 8260 | 04/08/2003 | BAS |
| 4-Bromofluorobenzene | 100 | | 86-115% | 8260 | 04/08/2003 | BAS |
| Toluene-D8 | 100 | | 88-110% | 8260 | 04/08/2003 | BAS |

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 04/03/2003

Work Order #: 0304-04231

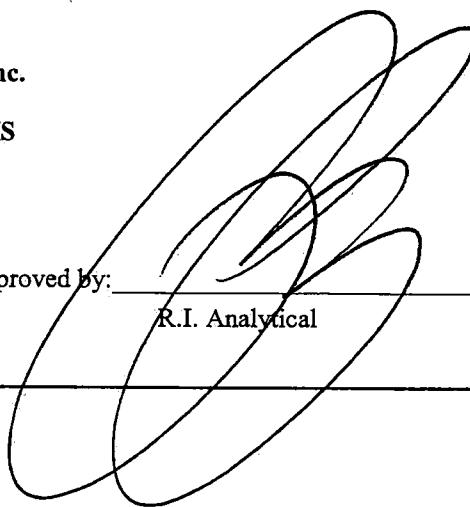
Approved by:

R.I. Analytical

Sample #: 005

SAMPLE

P-37S GRAB 04/02/03 @1130



| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|-----------------------------------|----------------|------------|----------|-----------|---------------|---------|
| pH (field) | 7.2 | | SU | EPA 150.1 | 04/02/2003 | JEC |
| TEMPERATURE (field) | 53 | | F | EPA 170.1 | 04/02/2003 | JEC |
| SPECIFIC CONDUCTANCE | 530 | 1 | uMHOS/CM | EPA 120.1 | 04/02/2003 | JEC |
| DISSOLVED OXYGEN | 6.1 | 1.0 | mg/l | EPA 360.1 | 04/02/2003 | JEC |
| Volatile Organic Compounds | | | | | | |
| chloromethane | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromomethane | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl chloride | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| dichlorodifluoromethane | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroethane | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| methylene chloride | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| trichlorofluoromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,2-Dichloroethylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroform | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,1-Trichloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| carbon tetrachloride | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromodichloromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloropropane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| cis-1,3-Dichloropropylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Trichloroethylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,3-Dichloropropylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2-Trichloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Dibromochloromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromoform | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Tetrachloroethylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2,2-Tetrachloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Chlorobenzene | 270 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-chloroethyl vinyl ether | <20 | 20 | ug/l | 8260 | 04/08/2003 | BAS |
| Benzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| toluene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| ethylbenzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| xylenes(Total) | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| acetone | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| Carbon disulfide | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-butanone(MEK) | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl acetate | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| 4-methyl-2-pentanone(MIBK) | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-hexanone | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| Styrene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| o-chlorotoluene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |

R.I. Analytical Laboratories, Inc.**CERTIFICATE OF ANALYSIS**

Ciba Specialty Chemicals Corp.

Date Received: 04/03/2003

Work Order #: 0304-04231

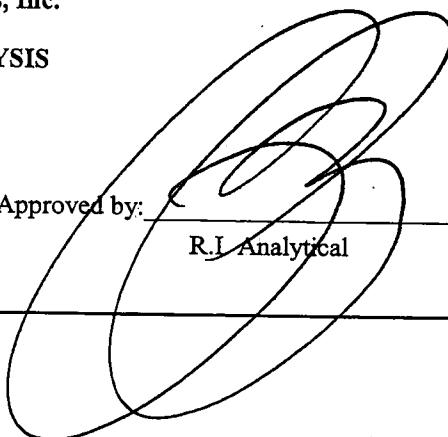
Approved by:

R.I. Analytical

Sample #: 005

SAMPLE

P-37S GRAB 04/02/03 @1130



| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|----------------------|-----------------------|-------------------|--------------|---------------|----------------------|----------------|
| 1,2-Dichlorobenzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,3-Dichlorobenzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,4-Dichlorobenzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Surrogates | | | RANGE | 8260 | 04/08/2003 | BAS |
| Dibromofluoromethane | 102 | | 86-118% | 8260 | 04/08/2003 | BAS |
| 4-Bromofluorobenzene | 102 | | 86-115% | 8260 | 04/08/2003 | BAS |
| Toluene-D8 | 101 | | 88-110% | 8260 | 04/08/2003 | BAS |

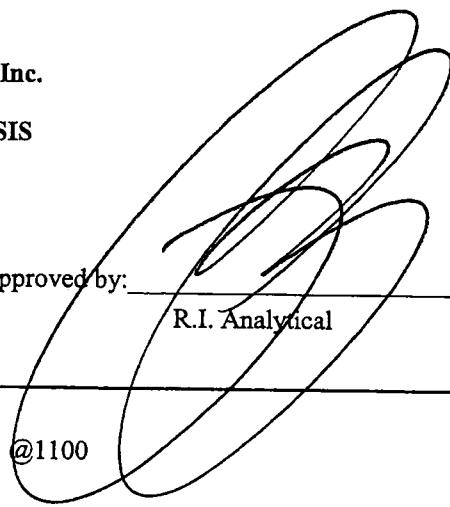
Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
 Date Received: 04/03/2003
 Work Order #: 0304-04231

Approved by:


R.I. Analytical

Sample #: 006

SAMPLE

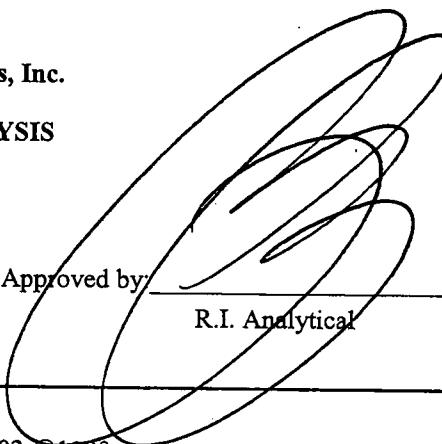
PW-130 PUMP HOUSE GRAB 04/03/03 @1100

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|-----------------------------|----------------|------------|----------|-----------|---------------|---------|
| pH (field) | 6.5 | | SU | EPA 150.1 | 04/03/2003 | JEC |
| TEMPERATURE (field) | 58 | | F | EPA 170.1 | 04/03/2003 | JEC |
| SPECIFIC CONDUCTANCE | 510 | 1 | uMHOS/CM | EPA 120.1 | 04/03/2003 | JEC |
| DISSOLVED OXYGEN | <1.0 | 1.0 | mg/l | EPA 360.1 | 04/03/2003 | JEC |
| Volatile Organic Compounds | | | | | | |
| chloromethane | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromomethane | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl chloride | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| dichlorodifluoromethane | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroethane | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| methylene chloride | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| trichlorofluoromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,2-Dichloroethylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroform | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,1-Trichloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| carbon tetrachloride | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromodichloromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloropropane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| cis-1,3-Dichloropropylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Trichloroethylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,3-Dichloropropylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2-Trichloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Dibromochloromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromoform | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Tetrachloroethylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2,2-Tetrachloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Chlorobenzene | 320 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-chloroethyl vinyl ether | <20 | 20 | ug/l | 8260 | 04/08/2003 | BAS |
| Benzene | 13 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| toluene | 26 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| ethylbenzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| xylenes(Total) | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| acetone | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| Carbon disulfide | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-butanone(MEK) | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl acetate | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| 4-methyl-2-pentanone(MIBK) | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-hexanone | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| Styrene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| o-chlorotoluene | 170 | 10 | ug/l | 8260 | 04/08/2003 | BAS |

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Approved by:


R.I. Analytical

Ciba Specialty Chemicals Corp.
 Date Received: 04/03/2003
 Work Order #: 0304-04231

Sample #: 006

SAMPLE

PW-130 PUMP HOUSE GRAB 04/03/03 @1100

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|----------------------|-----------------------|-------------------|--------------|---------------|----------------------|----------------|
| 1,2-Dichlorobenzene | 61 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,3-Dichlorobenzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,4-Dichlorobenzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Surrogates | | | RANGE | 8260 | 04/08/2003 | BAS |
| Dibromofluoromethane | 102 | | 86-118% | 8260 | 04/08/2003 | BAS |
| 4-Bromofluorobenzene | 100 | | 86-115% | 8260 | 04/08/2003 | BAS |
| Toluene-D8 | 100 | | 88-110% | 8260 | 04/08/2003 | BAS |

Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
 Date Received: 04/03/2003
 Work Order #: 0304-04231

Approved by _____

R.I. Analytical

Sample #: 007

SAMPLE

PW-120 PUMP HOUSE GRAB 04/03/03 @0945

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|-----------------------------|----------------|------------|----------|-----------|---------------|---------|
| pH (field) | 6.3 | | SU | EPA 150.1 | 04/03/2003 | JEC |
| TEMPERATURE (field) | 59 | | F | EPA 170.1 | 04/03/2003 | JEC |
| SPECIFIC CONDUCTANCE | 560 | 1 | uMHOS/CM | EPA 120.1 | 04/03/2003 | JEC |
| DISSOLVED OXYGEN | <1.0 | 1.0 | mg/l | EPA 360.1 | 04/03/2003 | JEC |
| Volatile Organic Compounds | | | | | | |
| chloromethane | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromomethane | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl chloride | 100 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| dichlorodifluoromethane | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroethane | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| methylene chloride | <300 | 300 | ug/l | 8260 | 04/08/2003 | BAS |
| trichlorofluoromethane | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethylene | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethane | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,2-Dichloroethylene | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroform | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloroethane | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,1-Trichloroethane | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| carbon tetrachloride | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromodichloromethane | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloropropane | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| cis-1,3-Dichloropropylene | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| Trichloroethylene | 130 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,3-Dichloropropylene | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2-Trichloroethane | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| Dibromochloromethane | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromoform | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| Tetrachloroethylene | 290 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2,2-Tetrachloroethane | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| Chlorobenzene | 3800 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-chloroethyl vinyl ether | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| Benzene | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| toluene | 100 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| ethylbenzene | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| xylenes(Total) | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| acetone | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| Carbon disulfide | <300 | 300 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-butanone(MEK) | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl acetate | <2500 | 2500 | ug/l | 8260 | 04/08/2003 | BAS |
| 4-methyl-2-pentanone(MIBK) | <2500 | 2500 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-hexanone | <2500 | 2500 | ug/l | 8260 | 04/08/2003 | BAS |
| Styrene | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| o-chlorotoluene | 180 | 50 | ug/l | 8260 | 04/08/2003 | BAS |

R.I. Analytical Laboratories, Inc.**CERTIFICATE OF ANALYSIS**

Ciba Specialty Chemicals Corp.

Date Received: 04/03/2003

Work Order #: 0304-04231

Approved by:

R.I. Analytical

Sample #: 007

SAMPLE

PW-120 PUMP HOUSE GRAB 04/03/03 @0945

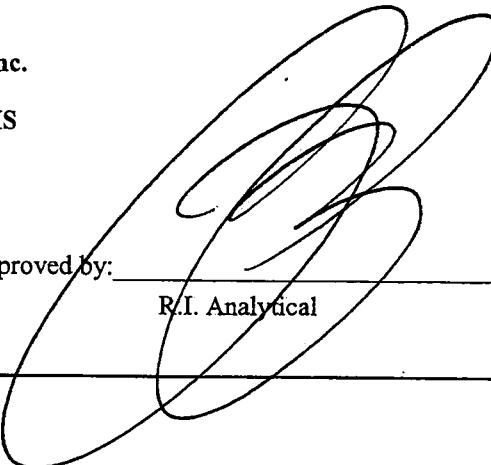
| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|----------------------|----------------|------------|---------|--------|---------------|---------|
| 1,2-Dichlorobenzene | 5700 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,3-Dichlorobenzene | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,4-Dichlorobenzene | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| Surrogates | | | RANGE | 8260 | 04/08/2003 | BAS |
| Dibromofluoromethane | 101 | | 86-118% | 8260 | 04/08/2003 | BAS |
| 4-Bromofluorobenzene | 99 | | 86-115% | 8260 | 04/08/2003 | BAS |
| Toluene-D8 | 99 | | 88-110% | 8260 | 04/08/2003 | BAS |

Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Approved by:


R.I. Analytical

Ciba Specialty Chemicals Corp.
 Date Received: 04/03/2003
 Work Order #: 0304-04231

Sample #: 008

SAMPLE

P-36S GRAB 04/03/03 @1140

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|-----------------------------|----------------|------------|----------|-----------|---------------|---------|
| pH (field) | 7.4 | | SU | EPA 150.1 | 04/03/2003 | JEC |
| TEMPERATURE (field) | 50 | | F | EPA 170.1 | 04/03/2003 | JEC |
| SPECIFIC CONDUCTANCE | 840 | 1 | uMHOS/CM | EPA 120.1 | 04/03/2003 | JEC |
| DISSOLVED OXYGEN | 3.4 | 1.0 | mg/l | EPA 360.1 | 04/03/2003 | JEC |
| Volatile Organic Compounds | | | | | | |
| chloromethane | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromomethane | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl chloride | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| dichlorodifluoromethane | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroethane | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| methylene chloride | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| trichlorofluoromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,2-Dichloroethylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroform | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,1-Trichloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| carbon tetrachloride | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromodichloromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloropropane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| cis-1,3-Dichloropropylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Trichloroethylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,3-Dichloropropylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2-Trichloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Dibromochloromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromoform | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Tetrachloroethylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2,2-Tetrachloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Chlorobenzene | 210 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-chloroethyl vinyl ether | <20 | 20 | ug/l | 8260 | 04/08/2003 | BAS |
| Benzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| toluene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| ethylbenzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| xylenes(Total) | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| acetone | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| Carbon disulfide | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-butanone(MEK) | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl acetate | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| 4-methyl-2-pentanone(MIBK) | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-hexanone | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| Styrene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| o-chlorotoluene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |

R.I. Analytical Laboratories, Inc.

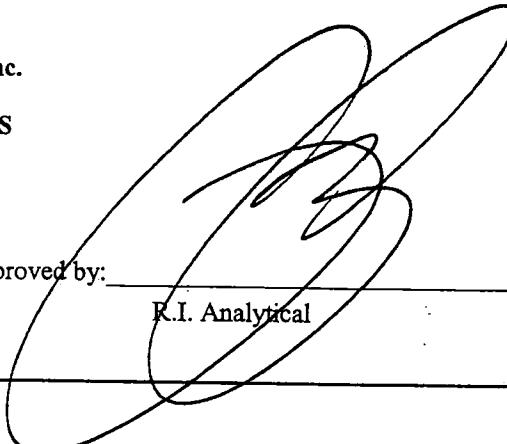
CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 04/03/2003

Work Order #: 0304-04231

Approved by:



R.I. Analytical

Sample #: 008

SAMPLE

P-36S GRAB 04/03/03 @1140

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|----------------------|----------------|------------|---------|--------|---------------|---------|
| 1,2-Dichlorobenzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,3-Dichlorobenzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,4-Dichlorobenzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Surrogates | | | RANGE | 8260 | 04/08/2003 | BAS |
| Dibromofluoromethane | 101 | | 86-118% | 8260 | 04/08/2003 | BAS |
| 4-Bromofluorobenzene | 102 | | 86-115% | 8260 | 04/08/2003 | BAS |
| Toluene-D8 | 99 | | 88-110% | 8260 | 04/08/2003 | BAS |

Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 04/03/2003

Work Order #: 0304-04231

Approved by:

R.I. Analytical

Sample #: 009

SAMPLE

P-35S GRAB 04/03/03 @1125

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|-----------------------------|----------------|------------|----------|-----------|---------------|---------|
| pH (field) | 7.3 | | SU | EPA 150.1 | 04/03/2003 | JEC |
| TEMPERATURE (field) | 48 | | F | EPA 170.1 | 04/03/2003 | JEC |
| SPECIFIC CONDUCTANCE | 1000 | 1 | uMHOS/CM | EPA 120.1 | 04/03/2003 | JEC |
| DISSOLVED OXYGEN | <1.0 | 1.0 | mg/l | EPA 360.1 | 04/03/2003 | JEC |
| Volatile Organic Compounds | | | | | | |
| chloromethane | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromomethane | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl chloride | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| dichlorodifluoromethane | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroethane | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| methylene chloride | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| trichlorofluoromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,2-Dichloroethylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroform | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,1-Trichloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| carbon tetrachloride | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromodichloromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloropropane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| cis-1,3-Dichloropropylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Trichloroethylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,3-Dichloropropylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2-Trichloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Dibromochloromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromoform | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Tetrachloroethylene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2,2-Tetrachloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Chlorobenzene | 280 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-chloroethyl vinyl ether | <20 | 20 | ug/l | 8260 | 04/08/2003 | BAS |
| Benzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| toluene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| ethylbenzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| xylenes(Total) | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| acetone | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| Carbon disulfide | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-butanone(MEK) | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl acetate | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| 4-methyl-2-pentanone(MIBK) | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-hexanone | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| Styrene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| o-chlorotoluene | 11 | 10 | ug/l | 8260 | 04/08/2003 | BAS |

R.I. Analytical Laboratories, Inc.**CERTIFICATE OF ANALYSIS**

Ciba Specialty Chemicals Corp.

Date Received: 04/03/2003

Work Order #: 0304-04231

Approved by:

R.I. Analytical

Sample #: 009

SAMPLE

P-35S GRAB 04/03/03 @1125

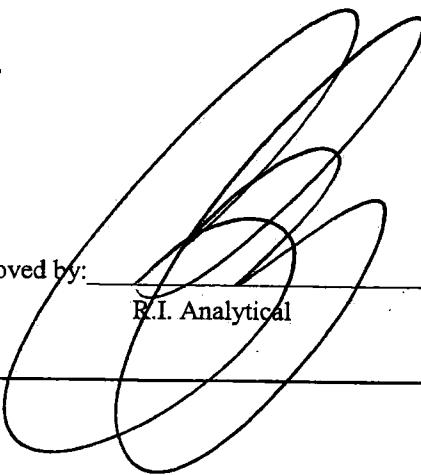
| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|----------------------|----------------|------------|---------|--------|---------------|---------|
| 1,2-Dichlorobenzene | 97 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,3-Dichlorobenzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,4-Dichlorobenzene | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Surrogates | | | RANGE | 8260 | 04/08/2003 | BAS |
| Dibromofluoromethane | 101 | | 86-118% | 8260 | 04/08/2003 | BAS |
| 4-Bromofluorobenzene | 102 | | 86-115% | 8260 | 04/08/2003 | BAS |
| Toluene-D8 | 99 | | 88-110% | 8260 | 04/08/2003 | BAS |

Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
 Date Received: 04/03/2003
 Work Order #: 0304-04231

Approved by:



R.I. Analytical

Sample #: 010

SAMPLE

SW-120 GRAB 04/03/03 @1040

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|-----------------------------------|----------------|------------|----------|-----------|---------------|---------|
| pH (field) | 6.3 | | SU | EPA 150.1 | 04/03/2003 | JEC |
| TEMPERATURE (field) | 53 | | F | EPA 170.1 | 04/03/2003 | JEC |
| SPECIFIC CONDUCTANCE | 470 | 1 | uMHOS/CM | EPA 120.1 | 04/03/2003 | JEC |
| DISSOLVED OXYGEN | 5.4 | 1.0 | mg/l | EPA 360.1 | 04/03/2003 | JEC |
| Volatile Organic Compounds | | | | | | |
| chloromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromomethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl chloride | 3 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| dichlorodifluoromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| methylene chloride | <5 | 5 | ug/l | 8260 | 04/08/2003 | BAS |
| trichlorofluoromethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,2-Dichloroethylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroform | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloroethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,1-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| carbon tetrachloride | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromodichloromethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloropropane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| cis-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Trichloroethylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Dibromochloromethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromoform | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Tetrachloroethylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2,2-Tetrachloroethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Chlorobenzene | 45 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-chloroethyl vinyl ether | <2 | 2 | ug/l | 8260 | 04/08/2003 | BAS |
| Benzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| toluene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| ethylbenzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| xylenes(Total) | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| acetone | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Carbon disulfide | <5 | 5 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-butanone(MEK) | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl acetate | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 4-methyl-2-pentanone(MIBK) | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-hexanone | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| Styrene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| o-chlorotoluene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |

R.I. Analytical Laboratories, Inc.**CERTIFICATE OF ANALYSIS**

Ciba Specialty Chemicals Corp.

Date Received: 04/03/2003

Work Order #: 0304-04231

Approved by:

R.I. Analytical

Sample #: 010

SAMPLE

SW-120 GRAB 04/03/03 @1040

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|----------------------|----------------|------------|---------|--------|---------------|---------|
| 1,2-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,3-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,4-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Surrogates | | | RANGE | 8260 | 04/08/2003 | BAS |
| Dibromofluoromethane | 100 | | 86-118% | 8260 | 04/08/2003 | BAS |
| 4-Bromofluorobenzene | 99 | | 86-115% | 8260 | 04/08/2003 | BAS |
| Toluene-D8 | 99 | | 88-110% | 8260 | 04/08/2003 | BAS |

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
 Date Received: 04/03/2003
 Work Order #: 0304-04231

Approved by:

R.I. Analytical

Sample #: 011

SAMPLE

MW-2S GRAB 04/03/03 @1020

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|-----------------------------------|----------------|------------|----------|-----------|---------------|---------|
| pH (field) | 6.2 | | SU | EPA 150.1 | 04/03/2003 | JEC |
| TEMPERATURE (field) | 47 | | F | EPA 170.1 | 04/03/2003 | JEC |
| SPECIFIC CONDUCTANCE | 450 | 1 | µMHOS/CM | EPA 120.1 | 04/03/2003 | JEC |
| DISSOLVED OXYGEN | 4.5 | 1.0 | mg/l | EPA 360.1 | 04/03/2003 | JEC |
| Volatile Organic Compounds | | | | | | |
| chloromethane | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromomethane | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl chloride | 120 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| dichlorodifluoromethane | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroethane | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| methylene chloride | <300 | 300 | ug/l | 8260 | 04/08/2003 | BAS |
| trichlorofluoromethane | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethylene | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethane | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,2-Dichloroethylene | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroform | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloroethane | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,1-Trichloroethane | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| carbon tetrachloride | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromodichloromethane | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloropropane | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| cis-1,3-Dichloropropylene | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| Trichloroethylene | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,3-Dichloropropylene | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2-Trichloroethane | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| Dibromochloromethane | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromoform | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| Tetrachloroethylene | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2,2-Tetrachloroethane | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| Chlorobenzene | 2000 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-chloroethyl vinyl ether | <100 | 100 | ug/l | 8260 | 04/08/2003 | BAS |
| Benzene | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| toluene | 200 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| ethylbenzene | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| xylenes(Total) | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| acetone | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| Carbon disulfide | <300 | 300 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-butanone(MEK) | <500 | 500 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl acetate | <2500 | 2500 | ug/l | 8260 | 04/08/2003 | BAS |
| 4-methyl-2-pentanone(MIBK) | <2500 | 2500 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-hexanone | <2500 | 2500 | ug/l | 8260 | 04/08/2003 | BAS |
| Styrene | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| o-chlorotoluene | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |

R.I. Analytical Laboratories, Inc.**CERTIFICATE OF ANALYSIS**

Approved by:

R.I. Analytical

Ciba Specialty Chemicals Corp.
 Date Received: 04/03/2003
 Work Order #: 0304-04231

Sample #: 011

SAMPLE

MW-2S GRAB 04/03/03 @1020

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|----------------------|-----------------------|-------------------|--------------|---------------|----------------------|----------------|
| 1,2-Dichlorobenzene | 66 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,3-Dichlorobenzene | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,4-Dichlorobenzene | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| Surrogates | | | RANGE | 8260 | 04/08/2003 | BAS |
| Dibromofluoromethane | 102 | | 86-118% | 8260 | 04/08/2003 | BAS |
| 4-Bromofluorobenzene | 101 | | 86-115% | 8260 | 04/08/2003 | BAS |
| Toluene-D8 | 100 | | 88-110% | 8260 | 04/08/2003 | BAS |

Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 04/03/2003

Work Order #: 0304-04231

Approved by:

R.I. Analytical

Sample #: 012

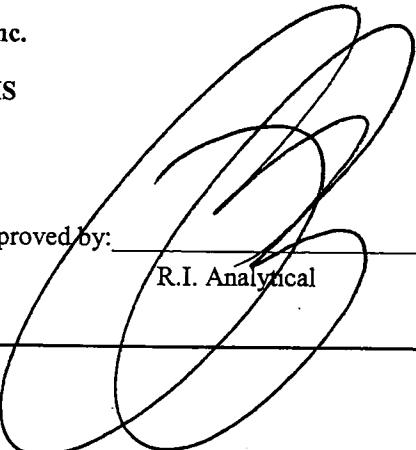
SAMPLE

MW-12S GRAB 04/02/03 @1430

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|-----------------------------------|----------------|------------|----------|-----------|---------------|---------|
| pH (field) | 6.7 | | SU | EPA 150.1 | 04/02/2003 | JEC |
| TEMPERATURE (field) | 52 | | F | EPA 170.1 | 04/02/2003 | JEC |
| SPECIFIC CONDUCTANCE | 350 | 1 | uMHOS/CM | EPA 120.1 | 04/02/2003 | JEC |
| DISSOLVED OXYGEN | 2.8 | 1.0 | mg/l | EPA 360.1 | 04/02/2003 | JEC |
| Volatile Organic Compounds | | | | | | |
| chloromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromomethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl chloride | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| dichlorodifluoromethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroethane | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| methylene chloride | <5 | 5 | ug/l | 8260 | 04/08/2003 | BAS |
| trichlorofluoromethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1-dichloroethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,2-Dichloroethylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| chloroform | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloroethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,1-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| carbon tetrachloride | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromodichloromethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,2-dichloropropane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| cis-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Trichloroethylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| trans-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Dibromochloromethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Bromoform | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Tetrachloroethylene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,1,2,2-Tetrachloroethane | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Chlorobenzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-chloroethyl vinyl ether | <2 | 2 | ug/l | 8260 | 04/08/2003 | BAS |
| Benzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| toluene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| ethylbenzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| xylenes(Total) | 2 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| acetone | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| Carbon disulfide | <5 | 5 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-butanone(MEK) | <10 | 10 | ug/l | 8260 | 04/08/2003 | BAS |
| vinyl acetate | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 4-methyl-2-pentanone(MIBK) | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| 2-hexanone | <50 | 50 | ug/l | 8260 | 04/08/2003 | BAS |
| Styrene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| o-chlorotoluene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Approved by: _____

 R.I. Analytical

Ciba Specialty Chemicals Corp.
 Date Received: 04/03/2003
 Work Order #: 0304-04231

Sample #: 012

SAMPLE

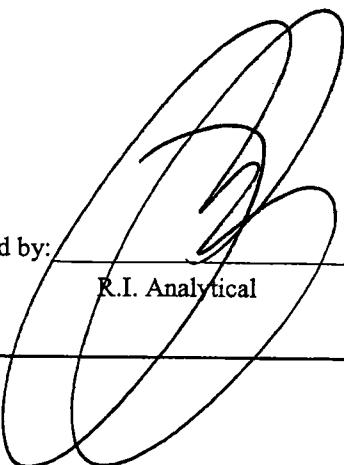
MW-12S GRAB 04/02/03 @1430

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|----------------------|-----------------------|-------------------|--------------|---------------|----------------------|----------------|
| 1,2-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,3-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| 1,4-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/08/2003 | BAS |
| Surrogates | | | RANGE | 8260 | 04/08/2003 | BAS |
| Dibromofluoromethane | 102 | | 86-118% | 8260 | 04/08/2003 | BAS |
| 4-Bromofluorobenzene | 103 | | 86-115% | 8260 | 04/08/2003 | BAS |
| Toluene-D8 | 99 | | 88-110% | 8260 | 04/08/2003 | BAS |

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Approved by:


R.I. Analytical

Ciba Specialty Chemicals Corp.
 Date Received: 04/03/2003
 Work Order #: 0304-04231

Sample #: 013

SAMPLE

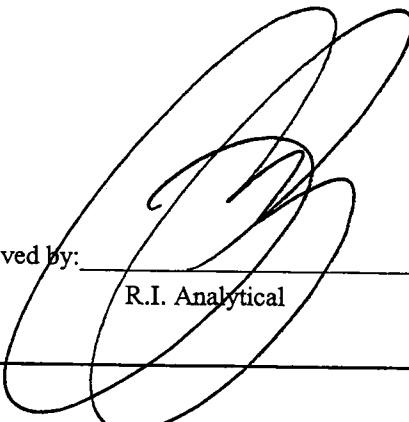
MW-21S GRAB 04/02/03 @1530

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|-----------------------------|----------------|------------|----------|-----------|---------------|---------|
| pH (field) | 6.9 | | SU | EPA 150.1 | 04/02/2003 | JEC |
| TEMPERATURE (field) | 49 | | F | EPA 170.1 | 04/02/2003 | JEC |
| SPECIFIC CONDUCTANCE | 760 | 1 | uMHOS/CM | EPA 120.1 | 04/02/2003 | JEC |
| DISSOLVED OXYGEN | 3.1 | 1.0 | mg/l | EPA 360.1 | 04/02/2003 | JEC |
| Volatile Organic Compounds | | | | | | |
| chloromethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| Bromomethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| vinyl chloride | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| dichlorodifluoromethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| chloroethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| methylene chloride | <5 | 5 | ug/l | 8260 | 04/09/2003 | BAS |
| trichlorofluoromethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1-dichloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1-dichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| trans-1,2-Dichloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| chloroform | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,2-dichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1,1-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| carbon tetrachloride | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Bromodichloromethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,2-dichloropropane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| cis-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Trichloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| trans-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1,2-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Dibromochloromethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Bromoform | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Tetrachloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1,2,2-Tetrachloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Chlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 2-chloroethyl vinyl ether | <2 | 2 | ug/l | 8260 | 04/09/2003 | BAS |
| Benzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| toluene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| ethylbenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| xylenes(Total) | 1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| acetone | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| Carbon disulfide | <5 | 5 | ug/l | 8260 | 04/09/2003 | BAS |
| 2-butanone(MEK) | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| vinyl acetate | <50 | 50 | ug/l | 8260 | 04/09/2003 | BAS |
| 4-methyl-2-pentanone(MIBK) | <50 | 50 | ug/l | 8260 | 04/09/2003 | BAS |
| 2-hexanone | <50 | 50 | ug/l | 8260 | 04/09/2003 | BAS |
| Styrene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| o-chlorotoluene | 72 | 1 | ug/l | 8260 | 04/09/2003 | BAS |

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Approved by:


R.I. Analytical

Ciba Specialty Chemicals Corp.
 Date Received: 04/03/2003
 Work Order #: 0304-04231

Sample #: 013

SAMPLE

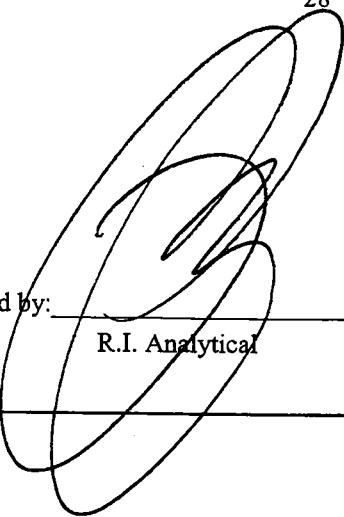
MW-21S GRAB 04/02/03 @1530

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|----------------------|----------------|------------|---------|--------|---------------|---------|
| 1,2-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,3-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,4-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Surrogates | | | RANGE | 8260 | 04/09/2003 | BAS |
| Dibromofluoromethane | 99 | | 86-118% | 8260 | 04/09/2003 | BAS |
| 4-Bromofluorobenzene | 100 | | 86-115% | 8260 | 04/09/2003 | BAS |
| Toluene-D8 | 101 | | 88-110% | 8260 | 04/09/2003 | BAS |

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
 Date Received: 04/03/2003
 Work Order #: 0304-04231

Approved by:



R.I. Analytical

Sample #: 014

SAMPLE

MW-4S GRAB 04/02/03 @1420

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|-----------------------------------|----------------|------------|----------|-----------|---------------|---------|
| pH (field) | 7.1 | | SU | EPA 150.1 | 04/02/2003 | JEC |
| TEMPERATURE (field) | 54 | | F | EPA 170.1 | 04/02/2003 | JEC |
| SPECIFIC CONDUCTANCE | 490 | 1 | uMHOS/CM | EPA 120.1 | 04/02/2003 | JEC |
| DISSOLVED OXYGEN | 7.9 | 1.0 | mg/l | EPA 360.1 | 04/02/2003 | JEC |
| Volatile Organic Compounds | | | | | | |
| chloromethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| Bromomethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| vinyl chloride | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| dichlorodifluoromethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| chloroethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| methylene chloride | <5 | 5 | ug/l | 8260 | 04/09/2003 | BAS |
| trichlorofluoromethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1-dichloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1-dichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| trans-1,2-Dichloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| chloroform | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,2-dichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1,1-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| carbon tetrachloride | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Bromodichloromethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,2-dichloropropane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| cis-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Trichloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| trans-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1,2-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Dibromochloromethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Bromoform | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Tetrachloroethylene | 2 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1,2,2-Tetrachloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Chlorobenzene | 3 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 2-chloroethyl vinyl ether | <2 | 2 | ug/l | 8260 | 04/09/2003 | BAS |
| Benzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| toluene | 66 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| ethylbenzene | 1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| xylenes(Total) | 4 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| acetone | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| Carbon disulfide | <5 | 5 | ug/l | 8260 | 04/09/2003 | BAS |
| 2-butanone(MEK) | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| vinyl acetate | <50 | 50 | ug/l | 8260 | 04/09/2003 | BAS |
| 4-methyl-2-pentanone(MIBK) | <50 | 50 | ug/l | 8260 | 04/09/2003 | BAS |
| 2-hexanone | <50 | 50 | ug/l | 8260 | 04/09/2003 | BAS |
| Styrene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| o-chlorotoluene | 5 | 1 | ug/l | 8260 | 04/09/2003 | BAS |

R.I. Analytical Laboratories, Inc.**CERTIFICATE OF ANALYSIS**

Ciba Specialty Chemicals Corp.

Date Received: 04/03/2003

Work Order #: 0304-04231

Approved by:

R.I. Analytical

Sample #: 014

SAMPLE

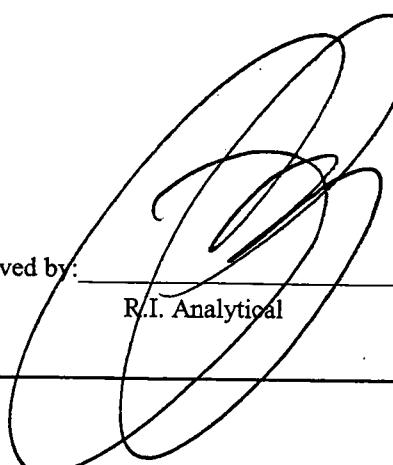
MW-4S GRAB 04/02/03 @1420

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|----------------------|----------------|------------|---------|--------|---------------|---------|
| 1,2-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,3-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,4-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Surrogates | | | RANGE | 8260 | 04/09/2003 | BAS |
| Dibromofluoromethane | 102 | | 86-118% | 8260 | 04/09/2003 | BAS |
| 4-Bromofluorobenzene | 101 | | 86-115% | 8260 | 04/09/2003 | BAS |
| Toluene-D8 | 99 | | 88-110% | 8260 | 04/09/2003 | BAS |

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Approved by:


R.I. Analytical

Ciba Specialty Chemicals Corp.
 Date Received: 04/03/2003
 Work Order #: 0304-04231

Sample #: 015

SAMPLE

TRIP BLANK GRAB 04/02/03 @0900

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|-----------------------------------|----------------|------------|-------|--------|---------------|---------|
| Volatile Organic Compounds | | | | | | |
| chloromethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| Bromomethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| vinyl chloride | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| dichlorodifluoromethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| chloroethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| methylene chloride | <5 | 5 | ug/l | 8260 | 04/09/2003 | BAS |
| trichlorofluoromethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1-dichloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1-dichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| trans-1,2-Dichloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| chloroform | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,2-dichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1,1-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| carbon tetrachloride | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Bromodichloromethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,2-dichloropropane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| cis-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Trichloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| trans-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1,2-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Dibromochloromethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Bromoform | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Tetrachloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1,2,2-Tetrachloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Chlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 2-chloroethyl vinyl ether | <2 | 2 | ug/l | 8260 | 04/09/2003 | BAS |
| Benzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| toluene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| ethylbenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| xylenes(Total) | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| acetone | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| Carbon disulfide | <5 | 5 | ug/l | 8260 | 04/09/2003 | BAS |
| 2-butanone(MEK) | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| vinyl acetate | <50 | 50 | ug/l | 8260 | 04/09/2003 | BAS |
| 4-methyl-2-pentanone(MIBK) | <50 | 50 | ug/l | 8260 | 04/09/2003 | BAS |
| 2-hexanone | <50 | 50 | ug/l | 8260 | 04/09/2003 | BAS |
| Styrene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| o-chlorotoluene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,2-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,3-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,4-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Surrogates | | RANGE | | 8260 | 04/09/2003 | BAS |

R.I. Analytical Laboratories, Inc.**CERTIFICATE OF ANALYSIS**

Ciba Specialty Chemicals Corp.

Date Received: 04/03/2003

Work Order #: 0304-04231

Approved by:

R.I. Analytical

Sample #: 015

SAMPLE

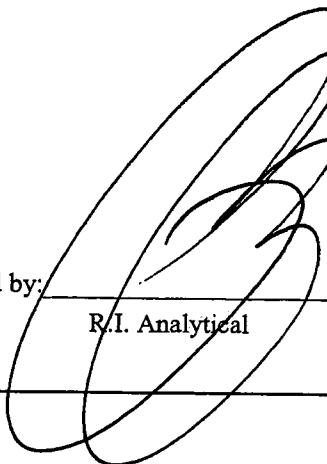
TRIP BLANK GRAB 04/02/03 @0900

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|----------------------|-------------------|---------------|---------|--------|------------------|---------|
| Dibromofluoromethane | 101 | | 86-118% | 8260 | 04/09/2003 | BAS |
| 4-Bromofluorobenzene | 101 | | 86-115% | 8260 | 04/09/2003 | BAS |
| Toluene-D8 | 100 | | 88-110% | 8260 | 04/09/2003 | BAS |

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Approved by:


R.I. Analytical

Ciba Specialty Chemicals Corp.
 Date Received: 04/03/2003
 Work Order #: 0304-04231

Sample #: 016

SAMPLE

EQUIPMENT BLANK GRAB 04/02/03 @1530

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|-----------------------------------|----------------|------------|-------|--------|---------------|---------|
| Volatile Organic Compounds | | | | | | |
| chloromethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| Bromomethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| vinyl chloride | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| dichlorodifluoromethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| chloroethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| methylene chloride | <5 | 5 | ug/l | 8260 | 04/09/2003 | BAS |
| trichlorofluoromethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1-dichloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1-dichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| trans-1,2-Dichloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| chloroform | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,2-dichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1,1-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| carbon tetrachloride | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Bromodichloromethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,2-dichloropropane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| cis-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Trichloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| trans-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1,2-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Dibromochloromethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Bromoform | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Tetrachloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1,2,2-Tetrachloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Chlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 2-chloroethyl vinyl ether | <2 | 2 | ug/l | 8260 | 04/09/2003 | BAS |
| Benzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| toluene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| ethylbenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| xylenes(Total) | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| acetone | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Carbon disulfide | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| 2-butanone(MEK) | <5 | 5 | ug/l | 8260 | 04/09/2003 | BAS |
| vinyl acetate | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| 4-methyl-2-pentanone(MIBK) | <50 | 50 | ug/l | 8260 | 04/09/2003 | BAS |
| 2-hexanone | <50 | 50 | ug/l | 8260 | 04/09/2003 | BAS |
| Styrene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| o-chlorotoluene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,2-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,3-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,4-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Surrogates | | RANGE | | 8260 | 04/09/2003 | BAS |

R.I. Analytical Laboratories, Inc.**CERTIFICATE OF ANALYSIS**

Ciba Specialty Chemicals Corp.

Date Received: 04/03/2003

Work Order #: 0304-04231

Approved by:

R.I. Analytical

Sample #: 016

SAMPLE

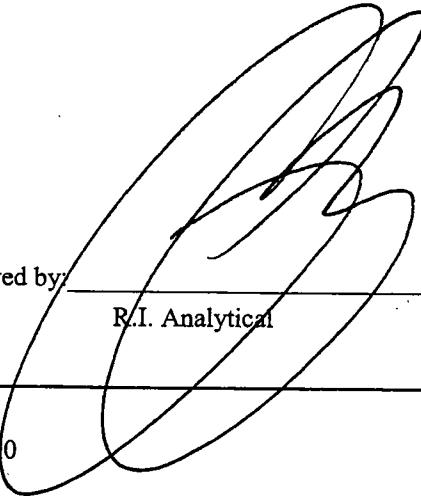
EQUIPMENT BLANK GRAB 04/02/03 @1530

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|----------------------|----------------|------------|---------|--------|---------------|---------|
| Dibromofluoromethane | 100 | | 86-118% | 8260 | 04/09/2003 | BAS |
| 4-Bromofluorobenzene | 103 | | 86-115% | 8260 | 04/09/2003 | BAS |
| Toluene-D8 | 100 | | 88-110% | 8260 | 04/09/2003 | BAS |

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Approved by:


R.I. Analytical

Ciba Specialty Chemicals Corp.
 Date Received: 04/03/2003
 Work Order #: 0304-04231

Sample #: 017

SAMPLE

EQUIPMENT BLANK GRAB 04/03/03 @1010

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|-----------------------------------|----------------|------------|-------|--------|---------------|---------|
| Volatile Organic Compounds | | | | | | |
| chloromethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| Bromomethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| vinyl chloride | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| dichlorodifluoromethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| chloroethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| methylene chloride | <5 | 5 | ug/l | 8260 | 04/09/2003 | BAS |
| trichlorofluoromethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1-dichloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1-dichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| trans-1,2-Dichloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| chloroform | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,2-dichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1,1-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| carbon tetrachloride | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Bromodichloromethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,2-dichloropropane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| cis-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Trichloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| trans-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1,2-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Dibromochloromethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Bromoform | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Tetrachloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1,2,2-Tetrachloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Chlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 2-chloroethyl vinyl ether | <2 | 2 | ug/l | 8260 | 04/09/2003 | BAS |
| Benzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| toluene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| ethylbenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| xylenes(Total) | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| acetone | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| Carbon disulfide | <5 | 5 | ug/l | 8260 | 04/09/2003 | BAS |
| 2-butanone(MEK) | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| vinyl acetate | <50 | 50 | ug/l | 8260 | 04/09/2003 | BAS |
| 4-methyl-2-pentanone(MIBK) | <50 | 50 | ug/l | 8260 | 04/09/2003 | BAS |
| 2-hexanone | <50 | 50 | ug/l | 8260 | 04/09/2003 | BAS |
| Styrene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| o-chlorotoluene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,2-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,3-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,4-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Surrogates | | RANGE | | 8260 | 04/09/2003 | BAS |

R.I. Analytical Laboratories, Inc.**CERTIFICATE OF ANALYSIS**

Ciba Specialty Chemicals Corp.

Date Received: 04/03/2003

Work Order #: 0304-04231

Approved by:

R.I. Analytical

Sample #: 017

SAMPLE

EQUIPMENT BLANK GRAB 04/03/03 @1010

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|----------------------|-------------------|---------------|---------|--------|------------------|---------|
| Dibromofluoromethane | 102 | | 86-118% | 8260 | 04/09/2003 | BAS |
| 4-Bromofluorobenzene | 101 | | 86-115% | 8260 | 04/09/2003 | BAS |
| Toluene-D8 | 100 | | 88-110% | 8260 | 04/09/2003 | BAS |

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.
 Date Received: 04/03/2003
 Work Order #: 0304-04231

Approved by:

R.I. Analytical

Sample #: 018

SAMPLE

TRIP BLANK GRAB 04/03/03 @0900

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|-----------------------------------|----------------|------------|-------|--------|---------------|---------|
| Volatile Organic Compounds | | | | | | |
| chloromethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| Bromomethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| vinyl chloride | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| dichlorodifluoromethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| chloroethane | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| methylene chloride | <5 | 5 | ug/l | 8260 | 04/09/2003 | BAS |
| trichlorofluoromethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1-dichloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1-dichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| trans-1,2-Dichloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| chloroform | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,2-dichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1,1-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| carbon tetrachloride | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Bromodichloromethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,2-dichloropropane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| cis-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Trichloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| trans-1,3-Dichloropropylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1,2-Trichloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Dibromochloromethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Bromoform | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Tetrachloroethylene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,1,2,2-Tetrachloroethane | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Chlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 2-chloroethyl vinyl ether | <2 | 2 | ug/l | 8260 | 04/09/2003 | BAS |
| Benzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| toluene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| ethylbenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| xylenes(Total) | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| acetone | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| Carbon disulfide | <5 | 5 | ug/l | 8260 | 04/09/2003 | BAS |
| 2-butanone(MEK) | <10 | 10 | ug/l | 8260 | 04/09/2003 | BAS |
| vinyl acetate | <50 | 50 | ug/l | 8260 | 04/09/2003 | BAS |
| 4-methyl-2-pentanone(MIBK) | <50 | 50 | ug/l | 8260 | 04/09/2003 | BAS |
| 2-hexanone | <50 | 50 | ug/l | 8260 | 04/09/2003 | BAS |
| Styrene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| o-chlorotoluene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,2-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,3-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| 1,4-Dichlorobenzene | <1 | 1 | ug/l | 8260 | 04/09/2003 | BAS |
| Surrogates | | RANGE | | 8260 | 04/09/2003 | BAS |

R.I. Analytical Laboratories, Inc.**CERTIFICATE OF ANALYSIS**

Ciba Specialty Chemicals Corp.

Date Received: 04/03/2003

Work Order #: 0304-04231

Approved by:

R.I. Analytical

Sample #: 018

SAMPLE

TRIP BLANK GRAB 04/03/03 @0900

| PARAMETER | SAMPLE RESULTS | DET. LIMIT | UNITS | METHOD | DATE ANALYZED | ANALYST |
|----------------------|----------------|------------|---------|--------|---------------|---------|
| Dibromofluoromethane | 101 | | 86-118% | 8260 | 04/09/2003 | BAS |
| 4-Bromofluorobenzene | 100 | | 86-115% | 8260 | 04/09/2003 | BAS |
| Toluene-D8 | 101 | | 88-110% | 8260 | 04/09/2003 | BAS |